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Emergence: Developing Worldview in the Environmental Humanities

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EMERGENCE: DEVELOPING WORLDVIEW IN THE ENVIRONMENTAL HUMANITIES

by

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Abstract

While the environment has long played a role in humanistic expressions and investigations, the need for a more integrated look at the human-environment relationship has become ever more pressing. More than ever, humanities scholars are recognizing their ability to mobilize critical and creative action to address pressing socioeconomic, sociopolitical, and socioenvironmental problems. Teaching and engaging students through interdisciplinary methods, connecting students and communities, developing a sense of agency and responsibility for planetary sustainability has become a visible focus in higher education. My study aimed to understand how an environmental humanities class affects, if at all, the way students construct worldview. The study was conducted in an undergraduate writing class and used narrative inquiry to analyze two student artifacts developed at different times within a sixteen-week semester. I hoped to understand how what happens in the time between the construction of the first and last assignments may contribute to shifts in student worldview. This dissertation concludes with proposals for how the environmental humanities may be included in higher education and public scholarship. This dissertation is available in open access at AURA: Antioch University Repository and Archive, http://aura.antioch.edu/and OhioLINK ETD Center, https://etd.ohiolink.edu/

Keywords: *narrative inquiry*, *environmental humanities*, *college composition*, *higher education*, *worldview*

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Chapter 1: The Environmental Humanities

The issue may not be, 'What can we teach them to change to become sustainable?' but, 'What is preventing them from changing to sustainable lifestyles despite education?'
- *Jurin & Hutchinson, 2005*

Change in the Humanities

The humanities aim to expand the human experience, to better understand it, and to evolve it in myriad ways. The humanities challenge us to consider, reconsider, wrestle with, and embrace conflict in culture and society, always pushing the boundaries of understanding and imagination. The heart of the humanities asks, what makes us human? In doing so, "the humanities have traditionally worked with questions of meaning, value, ethics, justice and the politics of knowledge production" (Rose et al., 2012, p. 2). In exploring what makes us human, we learn to think critically but more importantly as philosopher, Martha C. Nussbaum (2010) claims, we develop "the ability to transcend local loyalties and to approach world problems as a "citizen of the world"; and, finally, the ability to imagine sympathetically the predicament of another person" (Nussbaum, 2010, p. 38). This is a real strength of the humanities, crafting and sharing narratives. The diversity and scope of the humanities has always been its strength as there are as many ways to tell our human stories as there are to understand them.

Despite the array of ways in which the fields in the arts and humanities has contributed to our perceptions of self and world, it has become abundantly clear that global citizenship is part of what it means to be human in an advancing technological world. Along with this realization comes the responsibility to increase our skills as humanists. Nussbaum (2010) states, "responsible citizenship requires, however, a lot more: the ability to assess historical evidence, to use and think critically about economic principles, to assess accounts of social justice, to speak a foreign language, to appreciate the complexities of the major world religions" (p. 124). Although

her claim is astute, one aspect needs more explicit inclusion—the environment. Responsible citizenship is planetary citizenship.

While the environment has long played a role in humanistic expressions and investigations, the need for a more integrated look at the human-environment relationship has become ever more pressing. Alongside this realization has come the acknowledgement that the interdisciplinary nature of our complex problems also calls for more complex, integrated methods and analysis and is often referred to as the new humanities. The disciplines within the humanities are witnessing a visible shift in scope and methodology (Klein 2005) with some scholars explicitly embracing exploration of the human-environment relationship in their research. According to the Chicago Center for Teaching at the University of Chicago (2016):

> Climatologists and environmental scientists have worked for years to raise awareness of the role and impact of humanity in the world, and in the last decade or so, humanities scholars and social scientists have similarly sought to investigate the relationship between people and their context. Perspectives from history examine human history and the history of the natural world in concert. Perspectives from anthropology examine the dialectical relationship of humans and animals in the world. Philosophy and religious studies consider human choice, welfare, and community. Approaches from the fields of gender studies, linguistics, and languages explore the role of communication in how we address and discuss climatic and environmental issues. (para. 2)

This shift may be partially in response to institutional and societal questions regarding humanity's relevance to 21st century education, but is more likely a result of our deepening understanding of the interdisciplinary nature of our complex social, economic, and environmental problems. Linguist Bob Hodge (1995) described the new humanities as

innovative, transdisciplinary, and critical and understood as a response to a changing world and that the "central characteristic of the 'New Humanities' is that it refuses this system of disciplinarity" (p.35). Interdisciplinary scholar, Allen Repko (2017) claims the new humanities is "broadening the meaning of 'the humanities'" and that it "now encompasses social science methods and concepts, as well as previously marginalized groups and other cultures" (p. 44).

While the new humanities began to shift in scope and methodology to include social science methods and concepts (Klein, 2005) some humanities scholars began to explicitly embrace exploration of the human-environment relationship in their research. An expansion of scope and contributions from across the humanities disciplines brings us closer to understanding root causes of human actions that result in dire environmental consequences. Adamson et al. (2016) emphasize that humanists are "confronting the perception (common in the second half of the twentieth century) that the humanities and sciences constitute two widely separate 'cultures'" (p. 135). Adamson et al. (2016) go on to say that this "bifurcation" between culture and nature is culturally constructed and is responsible for harmful and shameful practices including early colonialism and neocolonial expansion that resulted in deforestation, resource extractions, and displaced populations, including reduction and extinction of species (p. 136).

The environmental humanities arose as a response to our tendency to relegate escalating environmental issues to the realm of science and technology. Environmental humanists, Deborah Bird Rose et al. (2012) claim that "the need for a more integrated and conceptually sensitive approach to environmental issues is being increasingly recognised across the humanities and the social and environmental sciences" as traditional disciplinary approaches offer an "impoverished and narrow conceptualisation of human agency, social and cultural formation, social change and the entangled relations between human and nonhuman worlds" (p. 2).

A 2011 report, “A Crucible Moment: College Learning and Democracy’s Future,” was submitted to the U.S. Department of Education by The National Task Force on Civic Learning and Democratic Engagement. The report calls for this “cross-fertilization” (Scott, 2015, p. 118) of disciplines that will forge new connections for an ever-changing world. The report calls for all disciplines to address ‘‘grand challenges,’’ because ‘‘humanists and social scientists are critical in providing cultural, historical, and ethical expertise and empirical analysis to efforts that address issues such as the provision of clean air and water, food, health, energy, and universal education’’ (Musil, 2015, p. 247).

More than ever, humanities scholars are recognizing their ability to mobilize critical and creative action to address pressing socioeconomic, sociopolitical, and socioenvironmental problems. Teaching and engaging students through interdisciplinary methods, connecting students and communities, developing a sense of agency and responsibility for planetary sustainability has become a visible focus in higher education. Philippon (2012), identifying with the literary and cultural studies scholarship, defines sustainability as being “the process of achieving ecological health, social equity, and economic viability for current and future generations” and asks how scholars in the humanities might “contribute to the creation of a more sustainable world” (p. 163). Collaborations are increasingly common as scholars and educators strive to create curriculum, pedagogical road maps, and networks to understand and contribute to a more sustainable way of living with one another and the planet.

Some scholars are calling for more than cooperation and mingling of academic disciplines to solve social problems. Philosopher and feminist theoretician, Rosi Braidotti (2013) claims that rapid changes in interdisciplinary research in fields such as “biotechnologies, neural sciences, environmental and climate change research and Information and Communication

technologies" has challenged the very definition of human (p. 1). Despite this redefinition of what it means to be human in a globalized context, Braidotti (2013) calls for the humanities to "find the inspirational courage to move beyond an exclusive concern for the human, be it humanistic or anthropocentric Man, and to embrace more planetary intellectual challenges" (p. 11). Humanities scholars view the field as not only relevant and intrinsically valuable, but able to offer society a fundamental understanding of our environmental problems as well as applied and immediate solutions (Hall et al., 2015). Professor of English Literature, Helen Small (2013) states the value of the humanities has been powerfully articulated to include its study of meaning-making practices of the culture as well as interpretation and evaluation of those practices. For example, environmental art and narrative have emerged as powerful meaning-making practices in a world of increasing environmental stresses. Humanists may bring these practices to the fore for interpretation and evaluation in relation to the changing human-environment relationship. In reflection, criticism, and speculation, the humanities can contribute to democracy in action (Small, 2013). Humanities professor, Kurt Spellmeyer (2003) takes this a step further claiming that the humanities may become profound agents of social change. The humanities are considered part of the core curriculum at nearly all institutions of higher learning in the United States. Spellmeyer (2003) emphasizes that:

> at almost every college and university, there are general humanities courses and there are writing courses as well. And it is these, by virtue of their peripheral place, that may offer the best future for the humanities as a whole because it's here that we can 'teach the crises' with the freest hand. (p. 168)

This peripheral place that Spellmeyer (2003) refers to offers humanities scholars a wide lens through which to view, analyze, and critique social, economic, and environmental problems,

while engaging students as agents of social change. The environmental humanities provide a wider contextual network for students to engage in environmental issues, whether they focus on the scientific, social, economic aspects or a combination thereof. It can allow for space to couch anthropocentric presuppositions within the context of students' cultural and socio-economic experiences. The next section delves into these functions as contributions to the humanities' long-standing mission to aid humanity in empathic understanding and perceptive analysis. The humanities also guide us in interpretation, imagination, creativity, and problem solving.

Emergence of Environmental Humanities

> *To ignore our profound embeddedness in Earth as inconsequential diminishes our consciousness, severely circumscribing our experience of what it means to be human.*
>
> - *Christopher Uhl (2013)*

While the environmental humanities (Environmental humanities) is not an entirely cohesive pedagogy, approach, or strategy, it does uphold a common mission – to contribute to environmental problem-solving. In doing so, it does include particular inquiry strategies, analyses, and diverse ways of knowing. It is a way of reframing environmental issues as fundamentally sociopolitical issues. Literary and cultural theorist, Joni Adamson (2018), states the environmental humanities emerged to:

> take up the challenge of producing better ways to research the 'human dimension' of environmental change and engage in interdisciplinary projects. Environmental humanists seek to understand and transform the human preferences, practices and actions that are the crux of social and environmental justice challenges. (para 5)

The environmental humanities offers a variety of conceptual frameworks for understanding complex environmental problems and teaches interdisciplinary thinking. Environmental humanities are inherently linked with other disciplines and expand the agenda

through environmental economics, environmental politics, environmental anthropology, environmental philosophy, and environmental history. Rose and Robin (2004) claim that,

> Each of these subdisciplines is making significant contributions to the full arena of how we understand environments, how we understand society, history, democracy, and the future; how we may understand humanity more fully, and how we may intervene in environmental crisis in order to secure a more stable and habitable future. They ask, in short, how we may avoid committing suicide through failure to enact the worldview shattering knowledge that the unit of survival is the organism in recursive and mutually constitutive relationships with its environment. (p. 2)

The "umbrella" of the environmental humanities brings together, but is not limited to, the diverse and critical fields of history, political ecology, sociology, anthropology, media studies, literature, and philosophy. Students in the environmental humanities classroom explore issues of separation of humans from nature and attempts at human mastery over nature. Environmental determinism and justice, Indigenous knowledge and whose knowledge counts when dealing with environmental issues, and how these facets come together contribute to participatory democracy to ensure equity and fairness for both humans and the more-than-human world are also central themes to Environmental humanities. Environmental humanists, Stephen Siperstein et al. (2016) state,

> From the perspective of the humanities, some of the most pressing questions about climate change have to do with justice and sociality: who survives, who gets to live well, how do we live well together? Climate change is the defining provocation of our time. (p. 4)

Questions explored and inquiries pursued by the environmental humanities center on cultural traditions, our stories and beliefs that impact our decisions in the human-environment relationship, and ultimately, who we want to become as a planetary species (Swearer & McGarry, 2009, p. 3). Some undergraduate students may have never been given the opportunity to explore and reflect upon inquiries into the human-environment relationship unless enrolled in a course with this explicit mission. Exploring narrative evidence of how the human species has impacted the planet and is being impacted by planetary changes is a powerful line of inquiry.

The interactive and reflective process embedded within the environmental humanities enables students also to engage in questions of place and worldview. An environmental humanities classroom not only exposes students to the wide range of variables that make up the human-environment relationship, they give them the opportunity to research, critique, critically reflect, and enter a dialog with the situations with which they are confronted. The Environmental humanities classroom is a space for contextualizing, evaluating, and communicating the human-environment relationship. Case (2014) describes what can happen in a humanities classroom when students are deeply engaged with one another's ideas as ''instants of apprehension in which old worlds collapse and new possibilities are articulated'' (2014, para. 18). She argues that such moments are "the heart of the humanities classroom'' because they cause students to take ''a step away from a complacent knowing into a new world in which, at least at first, everything is cloudy, nothing is quite clear'' (2014, para. 8). A fundamental aspect of a humanities education is the power to doubt and then to reimagine. Embedded within the humanities is a sense of agency, "but agency that grows out of new understandings gleaned because one has taken other people and their perspectives seriously" (Musil, 2015, p. 248). This

sense of agency can and must logically extend to the care of the planet as socioeconomic problems are intertwined with environmental issues.

Engaging this relationship is to investigate, critique, act, reflect, and reassess the impact of cultural, economic, and socio-political constructs on the environment as well as the environment's impact on human constructs. The root of our degrading relationship to the environment rests largely on our values and how humans construct meaning. Environmental issues are fundamentally social challenges, uniquely human. Investigating the roots of environmental issues necessitates situating other-than-humans within cultural and ethical domains which may operate as a "provocation" for anyone engaging in the inquiries exposed by the environmental humanities. Rose et al. (2012) states that "environmental humanities engages with fundamental questions of meaning, value, responsibility and purpose in a time of rapid and escalating change" (Rose et al., p. 1). For students in an environmental humanities classroom, engagement can involve a significant questioning of personal values and responsibility that may lead to shifts in meaning and ultimately, worldview. Chapter two delves into the conundrums surrounding defining, understanding, and impacting worldview.

Different Visions and Definitions in the Environmental Humanities

While there is no definitive vision or definition of the environmental humanities, there are various ways of framing the mission and values. Rather than competing definitions, environmental humanities scholars offer complementary visions to be embraced by practitioners in diverse disciplines and applied fields of study. This is not to say the field lacks contentions and provocations. There is sufficient disagreement in the various disciplines contributing to the environmental humanities to provide rigorous debate and to push innovation. I will discuss these contentions at the end of this section but it is first necessary to highlight contemporary visions in

the environmental humanities. I will synthesize four visions and definitions for the environmental humanities that have enabled the field to grow in both impact and visibility. The discussion includes Rose et al. (2012), Hutchings (2014), Nye et al. (2013), and Holm et al. (2015). While there are numerous scholars around the globe offering insight, expanding concepts and applications for the environmental humanities, and furthering the field through connections and innovative practices, the four contemporary visions I have chosen to highlight capture the basic tenets of the field and illustrate the diverse ways scholars are envisioning the power of the environmental humanities. These definitions and visions also represent a more transparent and intentional effort to bring the environmental humanities to the forefront of both academic and public scholarship.

It is important to note that the environmental humanities, while not named as such, have been practiced for perhaps as long as humans have produced art, myth, and story, engaging in self-reflection and grappling with human's place in the natural world. To explore and reflect upon our relationship with the natural world through the humanistic disciplines is what is arguably what makes us human. Hinchman (2004) points out that, "As early as the Renaissance, and certainly by the late eighteenth century, humanists were developing historically-conscious, hermeneutically-grounded models of understanding, rather than the abstract, mathematical models of nature often associated with them" (p. 3). The humanities have always provided epistemological frameworks, avenues of inquiry, and tools for social and cultural change. Wright (2017) notes that Aldo Leopold (1949) "encouraged humans to think like a mountain in order to develop a relational understanding of life and connectivity" (p.179).

Merchant's (1980) historical investigations of changing scientific thought in the ecological, economic, social, religious, and philosophical context of when those changes took

place set the stage for an explosion of the environmental humanities. Merchant's (1980) radical ecological philosophy opened dialogue into the role of gender politics embedded in science (Eckersley, 1998, p. 184). Hinchman (2004) notes that,

> humanism has typically risen to prominence when certain forces – religious, scientific, bureaucratic- seemed on the verge of reducing people to mere objects devoid of will, diginity, and choice. Nearly always it has been a movement of resistance, a campaign to preserve or recover something deemed essential to our humanness that appeared in jeopardy of being extinguished. (p. 4)

Merchant (1980) made the connection between the reduction and oppression of women with that of nature, offering humanism yet another doorway into social, cultural, and political transformation. Through the analysis of language, cultural practices, and historical narratives, Merchant (1980) has helped scholars and students see themselves and the arc of human history differently in relation to the natural world. Hinchman (2004) sees the connection or convergence between environmentalism and humanism essential claiming that, "If humanism is about freedom, the capacity of our species, by self-reflection and political deliberation, to liberate us from reification and blind, fate-like processes, then the environmentalist project is perhaps the most humanistic ever conceived" (p. 25). With decades of passionate discourse, deconstruction, and divergence, the road has been well paved for the emergence of the environmental humanities as described here.

Anthropologist and environmental humanist, Deborah Bird Rose (2001) was one of the first to offer a conceptual framework as part of the environmental humanities umbrella. Rose (2001, p. 5) articulated her guiding theme as connectivity and the key points she proposed included the following:

(1) The fundamental condition of life is connection (not separation);

(2) The basic unit of survival is the organism in environment;

(3) Mind and matter, like particles and waves, are two ways of perceiving life;

(4) Systems are holistic; knowledge is therefore of necessity partial.

Rose's work in ethnoecology with Australian Aboriginal people underscored the idea that we must not look at the world and its challenges as separate from the various aspects of being human but as connected, interdependent parts. Utilizing "connection as a mode of reason" (2004) in the role the humanities plays in deconstructing and understanding our socio-environmental issues takes the proverbial thread and fashions a web. Rose's (2001) concept of connection as a mode of reason is another way to think about an integrative or ecological worldview. Rose (2004) urged the operationalization of this concept and that connectivity ought to be viewed "as an imperative to enlarge the boundaries of thought and to enlarge thinking itself - to enhance our ability to think in dialogue and, perhaps, in empathy with others" (p. 2). Enlarging our sphere of not only concern but of reason to include our connective relationships with other life on the planet is essential to our survival.

Connection with all life as a foundation of our decision-making is to "re-situate" humans within the environment and to move toward a more ecologically centered paradigm. For Rose (2001), the ultimate goal is to enact large scale social change that is ecologically, rather than anthropocentrically, grounded. When engaged in the work of unsettling and resituating, students may begin to articulate a deeper notion of humanity, "one that rejects reductionist accounts of self-contained, rational, decision making subjects" and "positions us as participants in lively ecologies of meaning and value, entangled within rich patterns of cultural and historical diversity that shape who we are and the ways in which we are able to 'become with' others" (Rose et al.,

2012, p. 2). Rose's (2004) connection as a mode of reason and re-situating the human is both psychological and social work that affects both individual and social identity and, in the process, worldview. The difficult and complex environmental issues we find ourselves enmeshed in require us to "examine the very nature of who we are as humans and what our role is in relation to the natural world" (Swearer & McGarry, 2009, p. 2).

Rose's work is often associated with colleagues at the University of New South Wales (UNSW), a leading research center for the environmental humanities, which defines four research strands: 1) environment, technology, and the politics of knowledge; 2) multispecies studies and politics of life; 3) social change, participatory politics, and community engagement; 4) rethinking the humanities through the environment. Through these primary areas of concern, the environmental humanities explores the complexities between facts and values in science and humanities. Rose et al. (2012) expand on this idea:

> On one level, the environmental humanities might be understood as a useful umbrella, bringing together many sub-fields that have emerged over the past few decades and facilitating new conversations between them. On another, perhaps more ambitious level, the environmental humanities also challenges these disciplinary fields of inquiry, functioning as a provocation to a more interdisciplinary set of interventions directed toward some of the most pressing issues of our time. (p. 5)

While Rose's (2012) work centered on seeing the Environmental humanities as a provocation and an umbrella, interdisciplinary scholar, Hutchings (2014) agrees but articulates the provocation as "unsettling dominant narratives through critique and other forms of resistance" while "bridge-building between disparate narratives" or community-building (p. 213). In his "Understanding of and Vision for the Environmental Humanities" Hutchings (2014)

sees the Environmental humanities as a platform for socioenvironmental investigations that begin with "thinking through the environment" rather than separate from it. Much like Rose's (2004) connection as a mode of reason, Hutchings (2014) sees our place within the environment as the starting point for unraveling sociopolitical environmental issues and argues that these facets are hallmarks of environmental humanities. For Hutchings (2014) we must engage diverse and multiple ways of being in the world that involve both critique and action and that:

> It is the primary task of the Environmental Humanities to foster critical examination in and of all three aspects, equally. Going forward, however, effort must increasingly be made to move beyond ecocriticism to ecoaction, mobilizing (radical) change "on the ground," be it in the form of actively spreading counternarratives or (re)building healthy communities and places. (p. 214)

While Hutchings (2014) embraces the tenets of the environmental humanities as espoused by Rose et al. (2012) he expands his vision with the inclusion of holistic critical theory, critical pedagogy, and heritage stewardship. Holistic critical theory in the environmental humanities is knowledge that aims at reducing domination by placing "history and heritage at the center of the conversation" and "simultaneously and holistically examines issues of knowledge and power in light of a culturally (socially, historically) constituted nature and an environmentally constituted culture" (Hutchings, 2014, p. 216). This leads to the importance of pedagogy in the environmental humanities. Hutchings embraces environmental educator, David Orr's (1991) tenets for the meaning and purpose of education that include the provocative statement that "all education is environmental education" (p. 12). Critical pedagogy recognizes "teaching as action" and sees the classroom as the "field" and prepares students for participatory democracy, fosters ethical care and concern, and focuses on relationships (Hutchings, 2014, p. 214).

The last idea that Hutchings feels is necessary in the Environmental humanities is heritage stewardship where theories and concepts merge with environmental practice. He states that the Environmental humanities "must embrace the concept of stewardship, unsettle top-down 'resource management' and support alternative strategies" (Hutchings, 2014, p. 217). Direct engagement with environmental practice is important as "stewardship implies a personal connection to a 'grounded' and 'healthy' heritage" (Hutchings, 2014, p. 215).

Hutchings (2014) emphasis on action is common in the Environmental humanities. The Swedish Foundation for Strategic Environmental Research (MISTRA) identified three salient characteristics of the environmental humanities in its 2013 report *The Emergence of the Environmental Humanities*. Research has demonstrated that environmental humanities "practitioners often seek to be more than observers and critics. They want to be involved, and to have a role in shaping public policy and in shaping the values and the narratives that guide decision-making" (Nye et al., 2013, p. 8). The report was developed by the Working Group on the Environmental Humanities, funded by MISTRA, an independent research foundation aimed at improving sustainability and environmental quality on a global scale. The following scholars formed the working group: Professor of American History, David Nye, Professor of Swedish Literature, Linda Rugg, Professor of Science, Technology, and Society, James Fleming, and Environmental humanities scholar, Robert Emmett.

Nye et al. (2013, p.8) offer three salient characteristics for the environmental humanities that both define and inform its development:

- It is "inherently interdisciplinary, calling upon expertise in a range of fields, including at a minimum literature, the fine arts, philosophy, history, geography, and anthropology"

- Work in Environmental humanities often crosses national and cultural boundaries (if not explicitly, implicitly so) and "compare different national responses to similar problems, or engage issues of international concern such as global climate change, acid rain, species extinction, disposal of nuclear waste, or water shortages"
- Practitioners often seek more active roles so as to influence policy, values, and narratives that guide decision-making

Nye et al. (2013) claim that an essential role for the environmental humanities is to "identify and understand these changes, so that science has an accurate baseline against which change can be measured" as "major paradigm shifts are not solely attributable to changes in science and technology, but often are due to social and cultural factors" (p. 6). They acknowledge that "ideas and apprehensions have been changing as much as the climate itself" and offer the example of environmental history, pointing out that "historians examine not only our conceptual shifts in understanding nature but also transformations in technological capabilities" (Nye et al., 2013, p. 6). Nye and the Working Group on the Environmental Humanities (2013) assert that:

> The Environmental Humanities do not merely present improved ways to understand scientific and technological change. They offer a better understanding of the often human-based causes of those changes and the intricate relationship between people and the environments that they construct. This realm combining nature and culture differs from one society to another and from one time period to another, and these constructions are not only a matter of bricks and mortar, but also a complex social fabric made out of artifacts, language, works of art, ideas, attitudes, and an ever-changing sense of place. (p. 6)

The emphasis in the environmental humanities as a tool for better understanding drivers of anthropogenic environmental change, insufficient response to those changes, and the way our culture and society reflects change and response is also reflected in the work of another fundamental group working to forward the mission of the field. Environmental historian, Poul Holm (2015) and interdisciplinary colleagues underscore the importance of the Environmental humanities and state,

> We recognize that science is able to monitor, measure and to some extent predict the biogeophysics of global change. However, its analytical power stops short of investigating the main driver of planetary change—the human factor. What humans believe and value, how we organize ourselves, and what we invest to achieve our goals are factors that lie largely outside scientific calculation. (p. 979)

Not only do they emphasize the way the humanities might inform the roots of planetary change and human response, they claim it is essential to promote pro-environmental behavior. Doing so involves exploring the systems in place that create barriers to such behaviors. As "human preferences, practices and actions are the main drivers of global environmental change in the 21st century" (Holm et al., 2015, p. 977) we must engage all disciplines and prioritize the mission of understanding and encouraging pro-environmental behavior. They claim that the "humanities disciplines, such as philosophy, history, religious studies, gender studies, language and literary studies, psychology, and pedagogics do offer deep insights into human motivations, values, and choices" and to ignore such insights will be at society's peril (Holm et al., 2015, p. 978).

To further the mission of the environmental humanities, Holm et al. (2015) established the ground-breaking Humanities for the Environment (HfE) Observatories "through which to

observe, explore and enact the crucial ways humanistic disciplines may help us understand and engage with global ecological problems by providing insight into human action, perceptions, and motivation" (p. 978). Their invitation to join a consortium of global observatories, "Humanities for the Environment—A Manifesto for Research and Action," urged the development of a shared research agenda as an innovative effort to promote dialogue and "to bridge disciplinary gaps in the pursuit of effective approaches to environmental challenges" (Holm et al., 2015, p. 978). Each observatory began with asking the fundamental question, "What is the role of the humanities in the age of the Anthropocene?" (p. 978). On the choosing the term *observatories*, they state:

> The grantees chose the word "Observatories" to indicate that the award would not monopolize resources through narrow centers, but would, rather, observe broadly and reach out to map and work with the many new environmental humanities initiatives developing regionally and around the world. As a descriptive term, "Observatory" was chosen to quicken the imagination of humanists being called upon to think outside the limitations of traditional humanities research protocols. (p. 979)

The observatories have three goals (Holm et al., 2015, p. 979):

(1) To map and expand ongoing projects and activities in the home regions;

(2) To develop linkages, networks and new research questions and outcomes;

(3) To begin a transformative process that would test new models for humanities outcomes, public engagement, policy formulation, and pedagogical impact.

The HfE's three goals are all directed toward engaging people and communities in pro-environmental behavior. In order to do so, five questions form the basis of the HfE's shared research agenda:

- What Is Happening?
- What Prevents Us from Pro-Environmental Action?
- What Do We Think of the New Human Condition?
- What Can the Humanities Do?
- How to Get It Done

The Humanities for the Environment (HfE) Observatories see the "Great Acceleration" of "human technologies, powers and consumption" as a key driver of global environmental change (p.980). Acceleration of technologies and consumption has changed social and planetary conditions and requires "historians, archaeologists, anthropologists, and other humanities disciplines that study change through human time to assess and improve both our measurements and our understandings of the driving forces" (Holm et al., 2015, p. 980). Another shared inquiry in the Environmental Humanities Observatories is to not only encourage pro-environmental behavior but to ask what prevents us from engaging in such. While environmental science measures and assesses environmental change it does not necessarily alter our behavior or change direction. Holm et al. (2015) claim that,

> At the heart of global change in the 21st century lie human choices and actions—questions of human behavior, preference and motivation that are imbedded in individual practices and actions, in institutional and cultural pathways, and in political strategies. (p. 981)

Like Rose et al. (2012), Hutchings (2014), Nye et al. (2013), Holm et al. (2015), and the HfE take a strong stance on the necessity of the humanities and the sciences working collaboratively to unpack the many contributors to environmental problems that have changed the nature of the human-environment relationship. The four representatives for the field of environmental

humanities discussed here offer unique perspectives on how the humanities disciplines can play an important role in understanding and tackling environmental problems. Although each group of international scholars has expanded and developed the vision of this emerging field, common themes and concepts can be found throughout. The next section includes a discussion of foundational concepts for the environmental humanities.

Common Thread in Visions and Definitions

The visions in the preceding section share the central claim that "human preferences, practices and actions are the main drivers of planetary change" (Holm & Brennan, 2018, p. 2) and require the engagement of all disciplines to further our knowledge and understanding of environmental problems. Although the humanities have always challenged us to think deeply and differently, embraced the spaces of conflict and contention, and forged new ways of knowing, the thread that binds the disciplines is that of being human. Exploring the human experience, human understanding, human nature and fallibility, human perception and knowledge construction have all centered on the human being. How do humans see things, understand the world, and experience knowledge construction? It has become clear to scholars and educators that this is a limited lens through which to understand and evolve the human condition. On a planet with burgeoning stressors including increased population, increased land and water conflicts, and loss of natural habitat and resources have sent a loud and clear signal: humans alone can no longer be the thread that binds our inquiries under the humanities discipline. This is a stance found throughout the environmental humanities: the commonality in this umbrella field is not necessarily the humanities but the environmental imperative encompassing the 21st century.

According to Holm and Brennan (2018), because the academic disciplines of the humanities are largely concerned with how humans perceive, articulate and behave as a species, they can help us better understand and respond to contemporary environmental challenges. Premised upon the "re-situating" of humans within the environment to move toward a more ecologically centered paradigm, other common threads can be seen in the figure below.

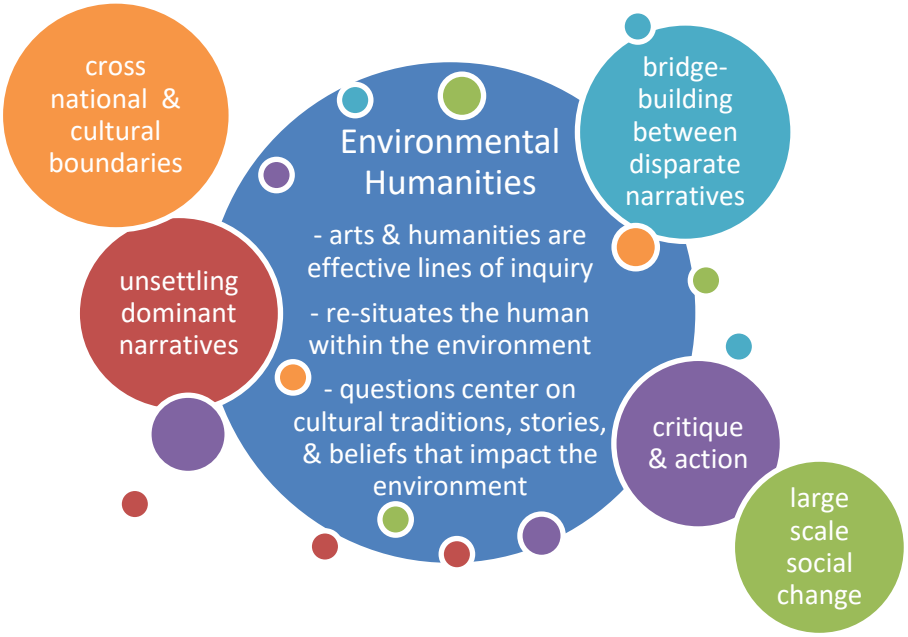


Figure 1. Common threads that run through the fabric of the environmental humanities.

The field is focused on active participation in shaping social change in a variety of ways. It is an inclusive field honoring diverse ways of knowing and creation of knowledge which leads to a strong component of social outreach, not relegating the efforts of environmental humanities research to the academy. Along with placing humans within the environment rather than separate from it, the Environmental humanities fosters values needed to build more sustainable societies. This includes necessary cultivation of habits and ways of thinking needed for environmental

citizenship. In this regard, environmental humanists embrace David Orr's (1991) claim that all education is indeed environmental.

A common thread also includes unsettling dominant narratives (Hutchings, 2014) which means breaking down barriers between not only the humanities and the sciences but between power structures that exist to promote an anthropocentric paradigm at the expense of a healthy planet. Breaking down barriers requires that the humanities "provide historical perspectives on the natural and social sciences, assist in the interpretation of scientific results, clarify societal values, address ethical problems that arise with new technologies, and facilitate the implementation of public programs" aimed at the goals of the Environmental humanities (Nye et al., 2013, p. 4).

While there are a number of ways the Environmental humanities is practiced in places of education, business, and other communities all over the world, the thematic threads bind the mission that has been articulated throughout its emergence: we must alter human behavior if we are to create more sustainable societies. In the MISTRA report, they conclude that "a sustainable society will not emerge simply because new technologies have been invented. They must become part of everyday life, integrated into the narratives of living, and embedded in larger cultural self-conceptions" (Nye et al., 2013, p. 22). The common threads found throughout the Environmental humanities can contribute greatly to achieving these goals.

Debates within the field. While the umbrella mission and vision of the environmental humanities embraces the tenets above, exactly how to enact them and what constitutes best practices is not easily identified nor agreed upon. One area of contention is the use of the term *Anthropocene.* First coined by Crutzen and Stoermer (2000), it "describes an Earth's surface so transformed by human activities that the biophysical conditions of the Holocene epoch (roughly

the last 11,000 years) have been compromised" (Castree, 2014, p. 234). When grounded in its contextual birthplace of geology, it seems simple enough. Human activity has utterly transformed the planet's physical conditions. When debated and considered by a variety of social scientists and humanists, it becomes problematic. The name itself is suspect, the Anthropocene or *age of man*, and vague enough to invite controversial interpretations from one of hubris and grandeur (Crist, 2007) to one of irrevocable planetary change (Chakrabarty, 2009). Revkin (2011) points out that, "As far as science can tell, there's never, until now, been a point when a species became a planetary powerhouse and also became aware of that situation" (para 7). Our increased scientific knowledge and heightened sense of awareness of human-caused climate change has given solid footing for the increased use of the terms Anthropocene and *anthropogenic* in reference to climate change.

Castree (2014) notes that other environmental humanists (Rigby, 2009; Gibson-Graham, 2011) saw the term as a call to action and a "provocation to think about humanity's present condition and future prospects" (p. 240), using it to frame their inquiries into the human-environment relationship. Castree (2014) highlights four ways scholars might use the Anthropocene to further the mission of the environmental humanities:

> reaching out beyond the academy to engender alternative sentiments and goals in society; tracking and contesting things to be done in the name of the Anthropocene by governments and others (e.g. Dalby, 2013); rethinking disciplinary self-understanding in the humanities (e.g. Chakrabarty, 2009 and Levene, 2013); and rethinking key Western concepts and offering new answers to the "big questions" of life. (p.243)

Aware of the contentions surrounding the term, I chose to use Anthropocene and reference climate change as anthropogenic for the reasons above and to adhere to what Syvitski (2012)

refers to as the "cumulative impact of civilisation" (p. 12). Far from the perception of arrogance in naming a geological epoch after humans, I see this usage as a "threshold marking a sharp change in the relationship of humans to the natural world" (Hamilton, Gemenne, & Bonneuil, 2015). Naming in this way does more than identify the primacy of human activity, it affects our comprehension of what it means to be part of a finite ecosystem. Rosol, Nelson, and Renn (2017) succinctly underscore why a new term for an unprecedented geologic epoch is necessary. They say:

> Naming a system-wide and largely irreversible transition of the entire planet, the concept of the Anthropocene dispenses once and for all with romantic ideas of a quasi-stable state of nature to which we should or might eventually return. Humanity does not act on the backdrop of an unchangeable nature but is deeply woven into its very fabric, shaping both its imminent and distant future. (p. 2)

The proclamation above fits well within the scope of the environmental humanities and the mission to re-situate the human and enact large scale social change. The broad scope of these two central tenets leads to other provocations within the field. Environmental humanists have a wide range of research interests from extinction studies (van Dooren, 2017), multispecies ethnography and emergent ecologies (Kirksey, 2012), critical environmental justice (Pellow, 2017) and ecofeminism (Mies & Shiva, 1993, 2014) to name a few.

While it is impossible to be inclusive of all aspects of the human-environment relationship within an environmental humanities lens, this is an area where critique frequently manifests. For example, intersectionality is increasingly called upon to more comprehensively inform environmental change analysis. Kaijser and Kronsell (2013) claim that, "An intersectional analysis of climate change illuminates how different individuals and groups relate

differently to climate change, due to their situatedness in power structures based on context-specific and dynamic social categorisations" (p. 417). Another area identified as underrepresented is within disability studies. Ray and Sibara (2017) argue that disabled persons have not only been excluded from national parks and landscapes but from political and scholarly environmentalism (p. ix). The places of provocation and debate only enhance the mission of the environmental humanities, to unsettle dominant narratives while bridge-building between disparate narratives in hopes of enacting large-scale social change.

My Definition

In this time of climate chaos, we need to transform social, economic, and political systems, and to do so with creativity and strong ethical grounding. Humanities classrooms are important transformative spaces.

- *Siperstein, Hall, & LeMenager , 2016*

My definition is rooted in the common themes of the environmental humanities: re-situating the human within the environment, critique and action aimed at large-scale social change, unsettling dominant narratives across national and cultural boundaries, and centering questions upon cultural traditions, stories, & beliefs that impact the environment. The environmental humanities is a mode of inquiry and is well placed within transformative spaces. Like Siperstein et al. (2016), I believe the humanities have unique perspectives to offer the understanding of complex environmental problems and the subsequent paradigm shifts that need to occur. I also agree that from the perspective of the humanities, "some of the most pressing questions about climate change have to do with justice and sociality: who survives, who gets to live well, how do we live well together? Climate change is the defining provocation of our time" (Siperstein et al., 2016, p. 4).

Questions like those above necessitate a critical pedagogical approach. Inherent in the practice of the environmental humanities is the deconstructing and understanding of power structures that influence our daily lives and drive us toward environmental decline. The environmental humanities must encourage the development of planetary citizenship and aid in our understanding of what that means and how we achieve it in particular cultures and geographies as the drivers and consequences of planetary change are not evenly distributed across the globe. Because "climate change is the provocation of our time," we must embrace and engage diverse and multiple ways of being in the world that involve both "critique and action" (Hutchings, 2014, p. 214) and understanding the role our societal and individual actions play. My definition of environmental humanities is operationalized on the premise that we make environmental problems more salient if we narrativize our experiences and those of others. Casting the net wide and deep and connecting people to places and real lives lived, both human and other-than-human, is an empowering strategy to re-story our way to a more sustainable world.

Challenge and Limitations of Higher Education

This brings us back to the challenges and limitations of education. Niemanis, Åsberg, and Hedrén (2015) ask, "What are the stakes (promises, risks) involved in narrating and managing, living and theorizing in the human/environmental interface?" (p. 68). The stakes have never been higher, which has been summed up as the new human condition, "the condition in which humankind is the major driver of planetary change and where its powers of creation may lead to the destruction of life" (Holm & Brennan, 2018, p. 1). The environmental humanities exists within this interface with the goal of learning how to better manage, live, and theorize our way

toward more sustainable societies where human preferences, practices and actions do not push us further toward environmental degradation and climate collapse.

How might this be accomplished in higher education? Environmental humanities scholars are making incredible strides in encouraging dialogue among their students, communities, and colleagues that influence understanding and action. Using socio-environmental complexities to guide exploration and the development of critical thinking attitudes such as an awareness of the limitations of expertise, self-awareness, intellectual courage, and respect for different viewpoints (Repko et al., 2017) is relevant across the spectrum of disciplines and experiences. The environmental humanities provides an exceptional framework for developing substantive knowing about the communities in which we live and the roles in which we play a part. "Knowledge carries with it," as David Orr (2004) states, "the responsibility to see that it is well used in the world" (p. 13).

Siperstein et al. (2016) unpack higher education's potential particularly well in their claim that educators can contribute to the development of agency in students. They say,

> Yet it is the educator's role to scaffold curricular objectives to encourage students to develop and practice their cultural agency. One method of supporting cultural agency that we editors are committed to is storytelling. The stories that students and teachers co-create can begin to build alternatives to the doomsday narratives or delusional techno-optimisms often associated with climate change in popular culture. If the world is indeed unraveling, what will we (re)weave with the threads? Will such future tapestries be sustainable, resilient, and just? Will they be encompassing enough to welcome all creatures into their compassionate folds? This work of re-making is well-suited to the humanities. (p. 9)

The environmental humanities is an important frame of inquiry for developing an ecological worldview and planetary citizenship. In a world where an ecological worldview is the outlier, we have significant work to do to understand the barriers to its development. This is not the sole responsibility of higher education of course but we have the unique opportunity to not only to delve into the importance and development of worldview but also to develop relationships and build bridges with communities in order to come to common ground for the good of the whole. Educators can do this through a variety of pedagogies, curricular frameworks, and service learning.

Professor of Pedagogy in Religion, Bobbi Patterson (2018), offers a compelling framework she calls the Place-Based Learning Pathway that guides teachers and students through attention, awareness, investigative understanding, empathetic discernment, ethics of interdependence, shared action and meaning. These stages are "crucial junctures of cognitive engagement and skill or tool acquisition for learning, teaching, and self-assessment" (Patterson, 2018, p. 185). The *attention* phase brings to light the place and relationships in which we exist. *Awareness* of other life and relationships is deepened by increased attention. This stage enhances the complexity in which we live and is often overlooked.

The next phase, *investigative understanding* "engages sensorial and cognitive skills, the work born of observation also interested in identifying compositional parts" (Patterson, 2018, p. 187). This phase gives rise to questions such as what do I already know about this relationship or system, is it trustworthy, or what evidence to do I have? In practice, or as Patterson states, "ways of reporting evidence of these investigations" (p. 187) can take many forms such as narratives, artistic performances, or problem-based projects and portfolios.

Empathetic discernment enables students and teachers to "recognize individual and group dynamics but also begin to better grasp the roles of emotion and memory with/in the place" (Patterson, 2018, p. 187). An important element in this phase, and I witnessed in my own research with students' environmental narratives, is that they go from a third-person perspective to a first or second-person viewpoint, creating deeper understanding and empathy for other people, life forms, and communities. The discernment aspect of empathy leads students to ask, "What perspectives are setting claims, and what are the sources of these perspectives?" (Patterson, 2018, p. 187). For example, in learning about debilitating water pollution in Jakarta and young people's attempts to spread awareness about their plight by building boats from collected trash to float downstream took students from a third-person perspective to a first-person narrative of lived experience. They are learning in relation rather than as neutral observers.

Patterson (2019) claims that the Place-based Learning Pathway is "building cognitive capacities as well as tools and skills of reflective conscious or intentional ethical decision-making" (p. 188). The previous phases of the pathway inevitably lead students to the ethics of interdependence. Empathy and discernment encourages shared accountability with the goal of cultivating shared values. The last phase in the pathway is shared action and meaning where "the precise parameters of shared meaning that translate into action" (Patterson, 2018, p. 188). This phase involves analysis and synthesis of knowledge and ideas with the goal of moving toward active engagement.

The Place-Based Learning Pathway is a valuable pedagogical tool in the environmental humanities and can aid in the development of an ecological worldview and just one example of the ways in which higher education can support the mission of the environmental humanities and

help reduce barriers. The barriers that exist to the development of an ecological worldview lie within us as individuals and impact our large-scale infrastructures and ideologies. New ways of thinking and knowing, listening to all voices not just those of the people and organizations in power, and building bridges for dialogue and action are inherently part of higher education.

Promise of Environmental Humanities

The environmental humanities offers a unique way of listening and knowing. Niemanis et al. (2015) claim that the "environmental humanities today needs to be at the vanguard of new configurations of scholarly inquiry" (p. 73) because it is particularly well-suited to address the problem of alienation and intangibility, primacy of a technocratic approach, the problem of negative framing, and the problem of compartmentalization. The problem of alienation and intangibility is rooted in the dominant social paradigm that embeds humans in Western ontologies, making it difficult to "relate to environmental issues that are predominantly sensible at other scales" (p. 73). Humans find it difficult to grasp these phenomena and effects resulting in alienation from environmental problems. Professor of English, Thomas Hallock's (2018) move toward asking students to contemplate, "how do we find nature in the city?" rather than engage in "nostalgic pastoralism" (p. 141). Teaching and learning in urbanized areas offers a new way of thinking about place and relationship. The Environmental humanities excels at this type of engagement as the arts and humanities do not shy away from provocative forms of investigation, expression, and reflection. In fact, as Holm et al. (2015) point out, "the humanities commonly deal with contradictory things, another source of their value in responding to the wicked problems of social and environmental change" (p. 985). Hallock (2018) had his students engage with waterways where natural areas intersect with the built environment. Far from the pristine nature of early environmental writing, students at the University of South Florida were engaging

with Salt Creek, a stream a hundred-year history that "includes industrial spills, coliform bacteria, and other forms of indirect and deliberate abuse" (Hallock, 2018, p. 141).

It has become increasingly clear that information-based education and pedagogy alone will not suffice to change worldviews or motivate behavior change. Niemanis et al. (2015) claim that addressing this intangibility will require "an understanding of humans as intimately part of the environment, as through-and-through embedded in it, as well as a more capacious ability to imagine our implication in pasts, futures and worlds at scales different to our own" (p. 74). The environmental humanities can aid in reframing and re-storying environmental problems as we have fallen short in our conception of the problems themselves. We have framed environmental issues as "a technocratic problem to be effectively managed" (Niemanis et al., 2015, p. 75) when in reality they are much more complex and speak to questions of value, meaning, and competing worldviews. The belief that our environmental issues are mere failings of technology falls squarely within lines of inquiry embraced by the environmental humanities.

Another critical problem the environmental humanities is capable of addressing is that of negative framing. While environmental issues such as air pollution, habitat and biodiversity loss, and ocean acidification are worrying, communicating with the public in a consistently negative, even apocalyptic, framing does not lead to effective citizen participation and "may stifle opportunities for innovative thinking around environmental challenges" (Niemanis et al., 2015, p.77). Scholars and experts in environmental discourse and communication know this to be true and are evolving pedagogical strategies to alleviate the problem of negative framing. The environmental humanities can offer a plethora of ways to aid in reframing environmental issues. Holm and Brennan (2018) offer a powerful assertion that captures the spirit of the environmental humanities:

> The humanities provide knowledge of what has been created, what has been lost, what may be preserved, and what may be regained. We provide keys to understand and resolve conflicts about values or decisions. In the best manifestations, we empower people in their choices as consumers and as citizens and indeed as members of family and society. In short, we provide baselines, understandings of where we have come from. We contribute to articulating values and we have an impact on the actions that are happening. This is no small feat. The humanities matter. We change the world and we need to assert this when we talk about what we do. (p. 8)

The following section offers some ways in which environmental humanists are taking Holm and Brennan's (2018) assertion from theory to practice in communities and institutions all over the world.

Examples of Environmental Humanities in Action

A key element in the mission of the environmental humanities is action. Moving theory into practice that impacts learning, worldview, behavior, and policy is of utmost importance. Holm et al. (2015) point out that,

> If the humanities are to help make the world a better place, we need to do our research and also to translate it into practical use. We are suffering both from lack of knowledge and from poor knowledge pathways. The humanities have a wonderful record of turning research into accessible books, TV productions and museum displays. (p. 986)

One way the environmental humanities manifests in practice is through the discovery and construction of narrative. Siperstein (2016) co-developed the Climate Stories Project, a digital climate storytelling project that showcases witness accounts of climate change throughout the world (p. 8) in hopes of humanizing the impacts of environmental change. The River Life,

Inclusive and Sustainable Rivers project from the HfE Observatory is another excellent example of the power of narrative as a mode of inquiry. Changes in climate and population dynamics inform the way we use rivers and express our relationship to rivers and warrants an examination of place and value.

Outreach to communities beyond academia is a central component of practice in the Environmental humanities. Holm et al. (2015) say:

> We want to emphasize the capacity of the humanities to move beyond models of research that locate the formation of knowledge exclusively within the academy. It seems to us that what we need, and what many humanists are well equipped to do, is to develop collaborative processes of conversation and knowledge engagement that are shared by academics and publics, as well as other stakeholders such as policy bodies etc. (p. 986)

Engaging with the wider community increases the chances of engagement and action rather than a mere transmission of information which often fails to motivate behavior change.

An outstanding contribution to the practice of environmental humanities is the Humanities for the Environment Observatories (HfE), funded by Arizona State University's Environmental Humanities Initiative. It sponsors projects and research "that seeks to answer questions about the role of the humanities in a time in which human activity is significantly reshaping the geological future of the planet" (para 1). Focusing on no single line of inquiry, the HfE has established eight research observatories in Africa, Asia, Australia, Circumpolar North, Europe, Latin America, and North America to better understand and respond to global environmental challenges.

The Dinner 2040 project is an example of how the HfE North American observatory is engaging with global environmental problems through the humanities. The project asked "what

should be on our plates for Dinner 2040?" and "incorporated scientific, historical, cultural, and place-based practices that sustain the environmental integrity of the Southwest in United States, honor its culinary innovations, ensure health for 'future' foods, and promote food justice and food sovereignty" ("Dinner 2040 the Future of Food", para 3). Engaging community members in a pilot workshop, the project sought to understand what future food systems might look like. Members asked what would make for a food system that is "more sustainable, respects the ecological integrity of the place, preserves cultural traditions, health, and ensures just practices in the production, distribution and consumption of food"? Including the various facets in the exploration of a truly social, political, economic, and environmental complex problem as food, as well as community members with lived experience, is what makes the Environmental humanities or humanities for the environment a powerful tool for social change. It takes the tools of the humanities and combines with social sciences for an integral look at what's happened/happening and what's possible/imaginable. Environmental educator and literary scholar, Stephen Siperstein, with co-editors Stephanie LeMenager (English and environmental studies) and Shane Hall (environmental studies), (2016) claim that "humanities disciplines long dedicated to exploring counterfactuals—the if/then imagination of alternate possible worlds—can be powerful vehicles for navigating the ethical conundrums and cultural unease that come with shifting ecological parameters" (p. 4) and in doing so can be compelling contributors to shifts in worldview.

Swearer and McGarry (2009) also see that the arts and humanities provide important and effective lines of inquiry and that "science and policy are necessary but not sufficient in helping to transform human consciousness and behavior for a sustainable future" (p. 3). Consider the Earth Keeping project from the HfE African Observatory. Using traditional African societies as a base, this project explores how humans can become earth keepers rather than exploiters. They

claim, "'Earth Keeping' not only provides us with a theme and model for preserving the earth, it offers a critique of local and global practices (especially global capitalism), that have contributed to the degradation of the African environment" (Earth Keeping in Africa, para 1). A project of this nature contextualizes the curricular experiences of students within the environmental humanities classroom and offers us insight into how people identify with environmental issues, what lenses they use to consider environmental issues, and how they conceive of their own role in creating those issues as well as working toward solutions. In fact, all of the HfE projects contextualize complex problems and offer narratives as transformative lenses through which to view self and world.

The environmental humanities can bring students to a more holistic understanding of the root causes of environmental degradation. It can also offer students already well-versed in the scientific aspects, a fuller understanding of environmental issues that includes elements typically not covered in environmental science such as the socio-political roots of water pollution caused by industrial agriculture. Environmental humanists Hannes Bergthaller et al. (2014) claim that "the emergence of the environmental humanities presents a unique opportunity for scholarship to tackle the human dimensions of the environmental crisis" (p. 261). By broadening and expanding their own worldview and perspectives on how and why the world works the way it does at any given point in history can turn the classroom into a realm of discovery and critical analysis. It can allow for space to couch anthropocentric presuppositions within the context of students' cultural and socio-economic experiences. For example, investigating environmental narratives from something like *National Geographic*'s The Years Project can contextualize real-world events and experiences for students, offering them a first-person, on the ground perspective on what is happening to real people, real families, and in real communities. The

Years Project is a global storytelling and education effort aimed at informing, empowering, and uniting the world in the face of a rapidly changing climate.

Environmental narratives offer an inside look at lived experience and how environmental problems and solutions are not compartmentalized but intertwined with social, economic, and political forces. The power of such narratives inspired my research and led to considerations of the power of expanded perspective, critical analysis of socioenvironmental problems, and the role of politics and economics in environmental investigations. How are students affected by these experiences in the classroom? The next section presents my research question and its contextual development.

My Research Question

The power of using narrative in education set the groundwork for framing my research question. The work of education scholars Shu-Chiu Liu and Huann-Shyang Lin (2014) provided a framework for conducting my own research in the classroom. The aim of their study was to "gain insight into undergraduate students' environmental worldviews by exploring their ideas about nature and human—nature relationships" using surveys and questionnaires. The work of Environmental and Sustainability Studies Professor, Richard Jurin, and Independent Education Consultant, Suzanne Hutchinson (2005), provides insight into understanding how worldview develops in an undergraduate environmental history class. Jurin and Hutchinson's (2005) study results "indicate that when people define themselves in an ecological sense, they begin to have an awakening of a sense of themselves and their connection with nature (pro or con)" (p. 499). This is what my study hoped to uncover. *Does an environmental humanities course impact worldview and if so, how?*

This question underpins my research in the environmental humanities and student worldview. As I explored the terrain of the environmental humanities with students, we encountered the hills and valleys of worldview, jumping into ravines that often revealed narratives of competition, greed, and desperation. Yet there were also narratives of empowerment, innovation, and resilience. The course goal was clear: deepen our understanding of socioenvironmental problems and empower for action. I explicitly stated that as a class we would develop and hone our research and writing skills through investigating socioenvironmental problems. I also explicitly stated that we would not be passive recipients of bad news as is so often the case with environmental investigations, and that rather, we would be active participants in both understanding and action. Holm and Brennan (2018) say, "The aim of the Humanities for the Environment is to observe, explore and put into action how the humanistic disciplines may contribute to understanding and engaging with global change problems by providing insight into human action and motivation" (p. 2).

The driving question behind my dissertation is that put forth by Jurin and Hutchinson (2005, p. 498), "What is preventing them from changing to sustainable lifestyles despite education?" Despite the best efforts of environmental educators, barriers persist in the development of sustainable lifestyles and even more so, the development of an ecological worldview that often underpins pro-environmental behavior. This makes the study of worldview more important than ever if we are to impact pro-environmental behavior. Jurin and Hutchinson (2005) say that "one of the barriers to environmental education is the lack of understanding by most people of why there are so many polarized opinions on social and environmental issues that drive opposing worldviews" (p. 485). Dominant worldviews, deeply rooted in early American history and industrialization, continue to drive contemporary behavior and although

environmental educators, scientists, social scientists, and environmental humanists explore and unpack the damaging effects of this worldview, it persists.

This persistence has given rise to a shift in research inquiries by scholars and educators, especially in social learning and worldview. Holm and Brennan (2018) phrase the question of why educated people do not change unsustainable behaviors in a more pressing way. They assert that we must:

> Define and understand how and why humans in the face of non-imminent danger choose to act as we do and how we may be able to change direction. Our research questions must be at the individual, institutional, and social levels: how do individuals respond to calls for change in individual behaviour; how can social innovation help redress institutionally ingrained patterns; and how do societies develop resilient responses to threats of crisis and collapse? (p. 2)

This is where my research contributes to filling a gap. I want to understand if an environmental humanities curriculum influences student worldview. Does looking at the human-environment relationship through an interdisciplinary lens allow students to re-examine their own worldview systems in a significant way that allows for a transformative learning experience? By giving students an opportunity to construct their own environmental narrative in the form of an autoethnography and to later guide them to constructing a future they've yet to live, we can see how worldview may be affected and if transformation is in fact occurring.

Using the definition of the environmental humanities containing the consistent themes of re-situating the human within the environment, critique and action aimed at large-scale social change, unsettling dominant narratives across national and cultural boundaries, and centering questions upon cultural traditions, stories, and beliefs that impact the environment, I set out to

understand how, if at all, we can affect worldview in a sixteen-week college classroom. The title of the course did not mention the environmental humanities and the university where the study took place has no environmental humanities program. Despite institutional barriers, environmental humanists continue this important work in the halls and outdated, underfunded classrooms of liberal arts colleges in hopes that our efforts at bridge building, challenging dominant paradigms, and empowering student voices will move in a critically needed direction.

Bridge to Worldview

To address environmental issues at the individual, institutional, and social levels, we must better understand not only the contributing factors to worldview development but also what affects the development of an ecological worldview. My research question aims to get at the heart of how we might affect the development of an ecological worldview in higher education.

Sustainability scholar, Arjen Wals, and global education policy analyst, Aaron Benavot (2017), emphasize the importance of education if we are to enter a more sustainable era where pro-environmental decisions, based on an ecological worldview, are the default. They offer a historical look at how we have attempted to educate people that highlights the evolving relationship between humans and the environment. Wals and Benavot (2017) see this evolution in present time, as we are "connecting with place and the non-human world (deepening of relations) as well as attention for both agency (learning to make change) and the critique and transgression of unsustainable societal structures" (p. 406). They see educational efforts, especially Environmental and Sustainability Education (ESE), as "a transition towards a more relational way of being in the world and a society based on values and structures that make sustainable living the default" (Wals and Benavot, 2017, p. 406). This is where my scholarship and that of others working with ecological consciousness and worldview intersect. This

dissertation aims to add to the literature on how we can effectively help students move toward, as Wals and Benavot (2017) say, a "more relational way of being in the world" (p. 406) one that takes into account the various stakeholders making a life on this planet.

While Environmental and Sustainability Education (ESE) have much to offer the transformative higher education classroom, it is clear that worldview and its concomitant values, beliefs, and attitudes influence our actions. Hedlund-de Witt (2013a) states, worldview can be viewed as a:

> 'root-cause' of our sustainability issues, and a profound change in them (or it) therefore as crucial to the process of forging solutions" and that "a change of individual lifestyles is an essential element in the transition towards more sustainable societies, and an understanding of worldviews appear to be of crucial importance in this process. (p. 3)

The Western worldview typically held in the U.S. prioritizes economic growth over social equity and relegates environmental concern to the back seat. Although there has been a clear shift in education to include environmental issues, it has in the past given mere lip service to root causes. In fact, Huckle and Wals, (2015) point out that "much education for sustainable development supports existing forms of economic and technological development and its unequal distribution, thereby preparing people for a lifetime of unsustainable work and consumption" (Wals & Benavot, 2017, p. 407). De Witt and Hedlund (2017) claim that "overall there appears to be a growing recognition of the critically important phenomenon of worldviews in the urgently needed transformation to sustainable societies" (p. 306).

How do institutions, scholars, and concerned citizens go about understanding and influencing worldview? Worldview is a complex matrix of culture, attitudes, beliefs, experience, values, and more. Despite its complexity, the humanities, social sciences, and education have

critical roles to play in unpacking and developing worldview. Higher education guides students as they expand and develop cognitively and includes worldview. Wals and Benavot (2017) say that not only does "education shape values, behaviour and worldviews, it also contributes to the development of competencies, skills, concepts and tools that can be used to reduce or halt unsustainable practices and build resilience in the face of environmental degradation and climate change" (p. 410). Education must be predicated on more than personal and professional development; it must include ecological citizenship as a foundation of learning. Carol E. Kasworm and Tuere A. Bowles (2012), Professors in the Department of Leadership, Policy, Adult and Higher Education at North Carolina State University, say:

> Ideally, higher education offers an invitation to think, to be, and to act in new and enhanced ways. However, these learning environments sometimes challenge individuals to move beyond their comfort zone of the known, of self and others; thus these learners may enter higher education experiencing discrepancies in beliefs, attitudes, and understanding, and engaging in a new social environment with provocative values, ideas, and power dynamics. (p. 389)

Higher education must embrace environmental and sustainability education because of its focus on a transition toward a relational way of being. In so doing, we begin to make environmental issues salient for people and begin to understand how worldviews shift and develop. An investigation of worldview provides an opportunity to understand student perception of and relationship to the environment. There is an increasing interest in worldview as awareness grows that the dominant social paradigm is unsustainable. Jurin and Hutchinson (2005) note that "understanding the worldview conflicts, interpersonally and intrapersonally, should help clarify some of the barriers that occur when trying to attain ecological sustainability on our planet" (p.

486). Scholars have analyzed worldview through a variety of frameworks and methodologies such as the New Environmental Paradigm (NEP) that aims to measure people's anthropocentric or ecological beliefs. Studies focused on worldview, especially the levels of the NEP in college students, have been quantitative (Liu & Lin, 2014).

In their study of college students, Liu and Lin (2014) asked, "What are the qualitatively different ways in which undergraduate students understand nature and human–nature relationships?" (p. 415). The survey and subsequent semi-structured interviews focused on two categories of worldview: relational and ontological. The relational category asked students questions like "What is humans' role in nature?, Are we different from other animals? Why?" and "What sorts of things can we do to nature?" (Liu & Lin, 2014, p. 420). The ontological category asked students "What comes to your mind when you think of nature/the natural world? How would you define nature?" and "How does nature work?" (Liu & Lin, 2014, p. 418).

Jurin and Hutchinson (2005) analyzed students' ecological autobiographies after taking a course that explored a variety of worldviews, asking "what are the worldviews that students identify with after taking a course on American environmental history that deals with worldviews?" (p. 487) and "what other outcomes are evident from critical exposure to other worldviews in this course?" (p. 495). The ecological autobiography provided a framework for understanding where students positioned their worldview and allowed Jurin and Hutchinson (2005) to categorize those worldviews and see that the exposure to different worldviews within the course's contextual content made students "more tolerant and understanding of worldviews different from their own" (p. 485). They note that the process of constructing an ecological autobiography helped students write "reflectively about dissonance in their own views, critically evaluating their environmental beliefs and values," leading to more tolerance and understanding

of others worldview and a deeper reflection on their own (2005, p. 498). Both of the above studies informed my research design and process in hopes of learning more about how we can understand and potentially affect environmental worldview.

A key strategy to understanding worldview is to understand the stories we live by. In Kingsnorth and Hine's (2009) Dark Mountain Project, a literary venture aimed at questioning anthropocentric stories that underpin our social, political, and economic infrastructures, they emphasize that we live in a time of social, economic, and ecological unravelling and they believe that the roots of these crises lie in the stories we have been telling ourselves. They assert that "it is through stories that we weave reality" and that re-storying the world by questioning and reimagining is a survival imperative (Hine, 2009).

David Korten (2006), former professor of the Harvard Business School, agrees and states that our human stories are the key to understanding where we've been and where the future may lead. To redirect the unsustainable course humanity is on we must change the stories by which we live. In the face of growing environmental threats, unpredictable climate conditions, conflict and displacement, and a heightened sense of economic instability, Korten (2015) states we need to author "a new story of meaning and possibility" (p. 22).

Christopher Uhl (2013) provides evidence for the old story in which we find ourselves (in the West) continuing to conduct business as usual, basing our infrastructure on fossil fuels, capitalism, and an *America first* narrative. He claims we must construct and embrace a new story in which we see ourselves as part of rather than separate from nature. We must move toward more sustainable energy, agriculture, natural resource valuation. The new story is as he states, the end of separation, one where we proceed with an *ecological consciousness* rather than from an anthropocentric state of being. Uhl's (2013) notion of ecological consciousness is one that

offers us a way to expand our worldview to include that of non-human nature. In constructing our new story, we bring ourselves into a new way of being, thinking, and seeing.

To guide students in our exploration and construction of a new story and its possibilities, I chose to use the Integrative Worldview Framework (IWF; Hedlund-de Witt, 2012) as a way to make the components of worldview more systematic and accessible. Worldview scholar in the field of cultural transformation for global sustainability, Hedlund-de Witt's (2012) framework operationalizes the complex concept of worldview in "the context of empirical research" and highlights "that a worldview is not a patchwork of loosely related phenomena but a coherent pattern or *system* that integrates seemingly isolated ideas into a common whole" (p.75.) Identifying the patterns and root causes of phenomena may bring students closer to an ecological consciousness and an integrative worldview. The IWF was embedded in the environmental humanities curriculum I used to teach the course and served as a guide for students in the construction of their own environmental narratives, as discussed in Chapter 3. Narratives play a key role in the way we create meaning and are increasingly viewed as an effective approach to knowledge translation and knowledge mobilization (Caine et al., 2013, p. 575).

With the mission of the environmental humanities in mind, the course curriculum set, and previous studies guiding my research, I taught the course, gathered student narratives, kept field notes, and conducted interviews. My ultimate goal was to understand the impact, if any, of an environmental humanities curriculum on student worldview. Next, I discuss the literature on worldview and how it relates to sustainability. Then I delve into the components of the Integrative Worldview Framework and how it relates to sustainability. The final piece of the literature review discusses Transformative Learning Theory and how it relates to worldview.

Chapter 2: The Concept of Worldview

...overall there appears to be a growing recognition of the critically important phenomenon of worldviews in the urgently needed transformation to sustainable societies.
- *Hedlund-de Witt (2013b)*

Worldview

When asked, college-age students state values (e.g., cheating on exams is wrong) and beliefs (e.g., God is real) but they are not trained to articulate a comprehensive view of what they believe to be the fundamental truths of the universe or guiding principles of their lives. They are not the only ones who struggle with worldview. Scholars have wrestled with this concept for as long as sentience has accompanied humankind. It has been referred to as an "inescapable human pursuit" (Naugle, 2002, p. 252). Philosophers and theologians have pondered, resisted, pushed forward, and reimagined the meaning of being human. We continue in this tradition today although it has taken some culturally interesting turns. While a comprehensive historical consideration of worldview is outside the scope of this literature review, I will offer a discussion of theories of worldview and why it is an essential component for understanding behavior. I will then review the operational definition I adopted for the purposes of my study.

To date there is no comprehensive theory of worldview but there are varying definitions and frameworks for understanding worldview as well as arguments for the concept's utility. Systems philosophers, David Rousseau and Julie Billingham (2018), note,

> the worldview concept is often applied very narrowly or inconsistently in other disciplines too (e.g., anthropology, sociology and religious studies). For example, "worldview" can be used to refer only to people's religious beliefs, or their moral commitments, or their stances on human rights. (p. 2)

Despite how worldview is defined or understood, it is integral to being human and a useful tool for understanding motivations and behaviors. Rousseau and Billingham (2018) claim that "the general significance of worldviews lies in this: everyone has one, and it constitutes a set of beliefs that guides their judgment making and action taking in all spheres of activity" (p. 3). Professor in science and education research, Bradford Lewis (1998), notes three general uses of worldview: thematic, paradigmatic, and logico-structural. In the first, worldview refers to "particular cognitive dispositions or orientations which are given thematic labels" while the paradigmatic use of worldview refers to "shared assumptions and the resulting perceptions of a group" (Lewis, 1998, p. 9). Thematic labels include components of worldview that influence a person's thinking like the belief in inherent good in the world. Paradigmatic worldviews are shared by groups of people such as in religious communities. The logico-structural (Kearney, 1975) use of worldview differs from the first two in that "worldview is taken to be the total of a person's understanding of himself, the world, and his place in the world" (Lewis, 1998, p. 9). While the thematic use captures characteristics of worldview and the paradigmatic is concerned with shared assumptions that comprise worldview, the third is concerned with the individual. It is the third use of worldview that represents a comprehensive theory as presented by anthropologist Michael Kearney (1975) and the understanding and use of worldview from which my dissertation proceeds. The logico-structural model, by positioning worldview as the intermediary link between environment and behavior, directs our attention away from environmental conditions and towards worldview as the primary determinants of behavior (p. 12) so understanding worldview becomes ever more pressing. I will now discuss worldview in terms of theoretical pillars: the anthropocentric and the integrative, followed by the values and beliefs represented by both an anthropocentric worldview and an integrative worldview.

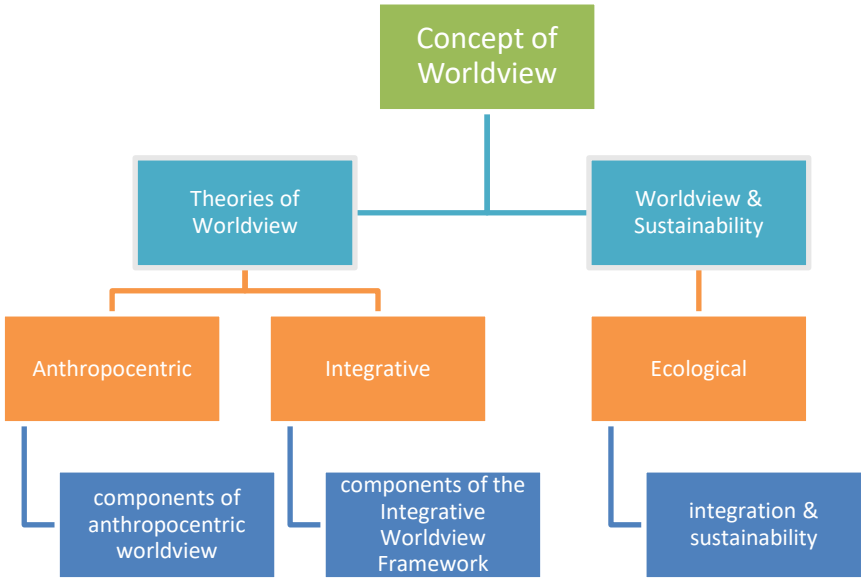


Figure 2. Organization of worldview categories.

Theories of Worldview

The psychologist, Mark Koltko-Rivera (2004) states that "human cognition and behavior are powerfully influenced by sets of beliefs and assumptions about life and reality" (p. 3). As worldview influences behavior, there are enthusiastic supporters for two major theoretical pillars, the anthropocentric and the integrative. These theoretical pillars can be viewed in terms of the evolution of societies (modern and postmodern) and understood in terms of dominant cultural beliefs and values that make up worldview. De Witt and Hedlund (2017) point out that "the *World Values Survey*—the largest existing worldwide, cross-cultural, longitudinal data set on cultural beliefs, values, and worldviews—demonstrates substantial value differences between traditional, industrial (modern), and postindustrial (postmodern) societies" (p. 314). The anthropocentric pillar has dominated in the modern era and continues to challenge the shift into postmodernism. For the purposes of discussion in the context of my research, I will focus on the anthropocentric as a modern worldview and the integrative worldview as postmodern. While this

is a simplification of the historical development of worldview, it captures the significance of its impact on behavior making it a meaningful construct to study in higher education.

Characteristic values and beliefs in an anthropocentric worldview include an emphasis on the self along with achievement, power, and hedonism (O'Brien, 2009, p. 168) while an integrative or postmodern worldview values self-transcendence and focuses more on the good of the whole. Certainly there can be a mix of these characteristics and values in worldview and are often governed by epistemic patterns of authority such as religious versus secular beliefs and practices (De Witt & Hedlund, 2017).

For the purposes of this dissertation, I define worldview in much the same way as De Witt and Hedlund (2017), who claim that worldviews are "complex constellations of epistemic capacities, ontological presuppositions, and ethical and aesthetic values that converge to dynamically organize a synthetic apprehension of the world" (p. 307). There are many thorough discussions of the four, recognized primary worldview types or patterns (traditional, modern, postmodern, integrative) and for my purposes, it is not necessary to delve into each type only to highlight the thematic patterns in the anthropocentric and integrative worldviews as they often manifest in values, beliefs, and practices that are at odds with one another and impact pro-environmental behavior.

Anthropocentric worldview. Crist and Kopnina (2014) ask "What does it mean to position *anthropos* in the center?" (p. 388). In Western, industrialized nations, placing the human at the center of personal, political, and social decisions has created a hierarchical narrative. According to Crist and Kopnina (2014), the Western cognitive frameworks shows that,

> There has been no shortage of proffered differences—usually conceived as gaping chasms—between the human and nonhuman (or ''subhuman'') in the course of history:

> reason, language, morality, civilization, technology, and free will are all examples of championed distinctive qualities, which, importantly, have been regarded as lacking in nonhumans. (p. 388)

This hierarchical narrative allows us to center meaning on individuality, progress and achievement, competition, materialism, and wealth accumulation. A predominant belief in this worldview (and not restricted to developed nations) is that prosperity relies on economic growth and higher incomes increase personal well-being (Jackson, 2017, p. 23). Within the five worldview components described by Hedlund-de Witt (2012), an anthropocentric ontology would hold instrumental values of nature rather than intrinsic values. It would hold epistemologic and axiologic views that value self-enhancement and conservation over self-transcendence and openness to change. It would adhere to the Dominant Social Paradigm—that views humans as superior to all other species—rather than the New Environmental Paradigm (Dunlap et al., 2000)—that views humans as interdependent parts of the greater environment—and hold societal visions where private interests and market regulation are prioritized over public interests and government regulation. Lastly, an anthropocentric worldview values utilization over preservation (Hedlund-de Witt, 2012).

Crist and Kopnina (2014) claim that "the worldview of self-elevated civilized humanity comprises a widespread, underlying framework tying together a multiplicity of action orientations within which human entitlement is always already automatically guaranteed" (p. 389) at the expense of all other life on earth. The consequences of an anthropocentric worldview make the study of worldview increasingly important and in particular, alternative worldview constructs. The next section explores an integrative worldview and the development of it as a conceptual framework.

Integrative worldview. In contrast to an anthropocentric worldview, some scholars see potential in worldview as an integrative concept, one that is more holistic rather than dualistic in nature. As consequences of a dominant anthropocentric ontology become more visible, an integrative worldview becomes increasingly necessary. Seeing the power of worldview to both understand and help construct perception and behavior, Hedlund-de Witt (2012) developed the Integrative Worldview Framework (IWF). She recognized the need for a more comprehensive way of understanding and evaluating worldview because of its fundamental importance in determining how we think and act. Hedlund-de Witt (2012) states "Worldviews are inescapable, overarching systems of meaning and meaning-making that to a substantial extent inform how humans interpret, enact, and co-create reality" (p. 77). The IWF articulates and integrates different aspects that comprise worldview, fostering reflexive inquiry and communicative action and by doing so operationalizes what Hedlund-de Witt (2012) refers to as an organizing theme rather than a theory "for delineating and depicting four major worldviews: traditional, modern, postmodern, and integrative" that provide a broad overview of the primary "assumptions, themes, and concerns of each of these worldviews, as well as provisionally suggesting the larger developmental trajectory that they seem to display" (De Witt & Hedlund, 2017, p. 311).

The five aspects of the IWF are ontology, epistemology, axiology, anthropology, and societal vision. Ontology captures a person's perspective on the nature of reality, often enriched with a cosmogony. Questions in this realm might ask, what is the nature of reality? What is nature? How did the universe come about? Epistemology is a perspective on how knowledge of reality can come about. To understand someone's epistemology, we might ask, how can we know what is real? How can we gain knowledge of ourselves and the world? What is valid knowledge, and what is not? Axiology is the third aspect of an integrative worldview and is a

perspective on what a ‘good life’ is, in terms of morals and quality of life, ethical and aesthetic values. We might ask, what kind of life has quality and gives fulfillment? What are our most cherished ethical and aesthetic values? What is life all about? Anthropology is the perspective on who the human being is and what his or her role and position is in the universe. We might ask, who or what is the human being? What is the nature of the human being? What is his or her role and purpose in existence? Societal vision, or social imaginary, is the last component in the IWF and is a perspective on how society should be organized and how societal problems and issues should be addressed. This aspect of worldview asks questions such as how should we organize our society? How should we address societal problems and issues? (Hedlund-de Witt, 2012).

With complex questions and avenues of inquiry, the five components of the IWF show that worldview “can be conceptualized as a complex constellation of ontological presuppositions, epistemic capacities, and ethical and aesthetic values that converge to dynamically organize a synthetic apprehension of the exterior world and one’s interior experiences” (Hedlund-de Witt, 2012, p. 79). Because worldview is a “complex constellation” of the elements that make us human, it is critical to have a framework through which it can be investigated and better understood as drivers of behavior and behavioral change.

The IWF operationalizes the concept of worldview into a coherent framework so that it might be used “in the context of (social) scientific research” and that “these five aspects may be taken as a starting point” (Hedlund-de Witt, 2012, p. 79). As such, the IWF “has the unique capacity to invite for the discovery and articulation of one’s worldview, by supporting individuals to articulate the answers to these foundational worldview-questions” (Hedlund-de Witt, 2012, p. 80). Not only can the IWF be used to help understand the matrix of one’s worldview, it can be used as “a (practice-oriented) tool aiming to both generate awareness,

responsibility, and reflexivity within individuals, as well as foster dialogue, exchange, and learning between individuals" (Hedlund-de Witt, 2012, p. 81). Viewed in this way, worldview is not simply one's interior views that remain in the private sphere; it has the potential to affect learning and social change.

Despite the structural and systematic ways in which the IWF approaches worldview beliefs, it is not without its critics. Hedlund-de Witt (2012) herself acknowledges that "while the operationalization into five aspects illuminates the structure of worldviews, the five aspects do not shed light on the content of, and the variations between, different worldviews" (p. 80). The IWF is a coding system, a tool for understanding broad categories of beliefs, attitudes, and values rather than the nuances that give rise to competing worldviews or prioritization of subcomponents of worldview.

Worldview and Sustainability

Hedlund-de Witt (2013b) states, "The evolution of the worldview concept is suggestive of an increasing reflexivity, creativity, responsibility, and inclusiveness—each of which are qualities that appear to be crucial for the global sustainable development debate" (p. 133). The Integrative Worldview Framework "posits that no worldview is intrinsically better than another; rather, worldviews should be seen as deep structures that can come to expression in more and less healthy ways, and in more and less ecologically sustainable ways" (De Witt & Hedlund, 2017, p. 313) and that each worldview has the potential to become more ecological. As an organizing framework, the IWF can foster reflexivity and communicative action aimed at pro-environmental behavior.

If worldviews are the "inescapable frameworks of meaning and meaning-making that profoundly inform our very understanding and enactment of reality" (Hedlund-de Witt, 2012, p.

74) then the connection between worldview and behavior requires attention. Connections between aspects of worldview and sustainable behaviors have been made in the fields of environmental psychology and positive psychology. Corral-Verdugo (2012) notes that pro-sustainability orientation, interpreted as a worldview characteristic, is "the set of dispositional and behavioral variables that characterize environmentally responsible individuals" (p. 655). While Corral-Verdugo's 2012 study introduced a preliminary explanatory model of sustainable behavior and its positive correlates, he notes that:

> sustainable behavior, which includes pro-ecological, altruistic, equitable and frugal practices, is anteceded and instigated by the positive personal traits and emotions that characterize an individual; as well as by the strengths and virtues a person has developed. (p. 660)

These characteristics of worldview aid in the development of sustainable behaviors, making worldview a primary area of research and inquiry.

As Rousseau and Billingham (2018) state, "personal worldviews evolve as people try to integrate their knowledge, experience, and intuitions into a coherent framework they can use to make sense of their lives and make decisions about how to live and what to do" (p. 3) making their knowledge and experience of utmost importance as people make their way in the world, their decisions impacting socioenvironmental conditions. Hedlund-de Witt (2012) states,

> Making use of the Integrative Worldview Framework (IWF) by systematically covering the five different aspects of worldviews may support the operationalization of the worldview-concept in a comprehensive manner. This is particularly significant as to date no approach has systematically and comprehensively investigated worldviews, and as

such explored their significance in relationship to environmental and sustainability-issues (p. 81)

Hedlund-de Witt (2012) claims that "in order to better understand the nature and structure of (more) sustainable behaviors and lifestyles, insight into worldviews and how they function and change in society appears to be of substantial relevance" (p. 75). An ecological worldview may support a move toward more sustainable behaviors and lifestyles.

Ecological worldview. Ecological worldview is when the interdependence of all life serves as a guiding principle and affects beliefs, attitudes, values, and behaviors. Clinical psychologist, Malachy Shaw-Jones (1992) saw "ecological worldview [as] a view that attends to the self/world connection. It is concerned with healing the relationship between humankind and the natural world" (p.18).

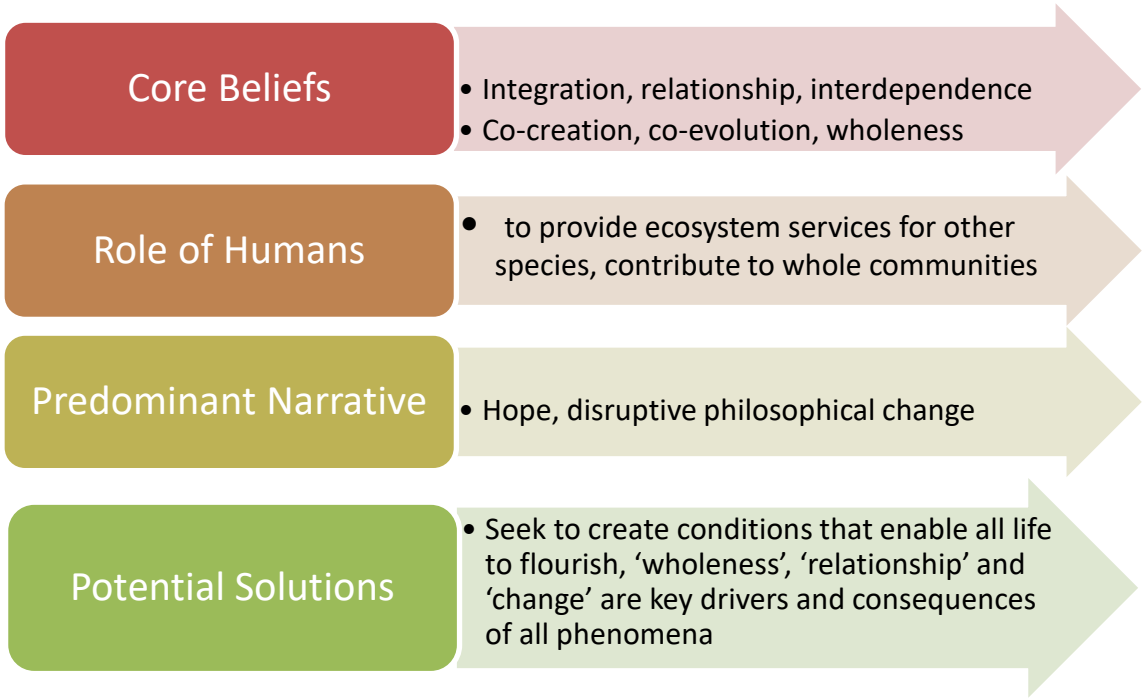


Figure 3. Characteristics of an ecological worldview excerpted from Kambo et al. (2016)

Its attributes focus on community, interconnectedness, and relationships. Barlow et al. (2012) see ecological worldview as having three primary facets: a cognitive dimension, an affective dimension, and active hope. The cognitive dimension involves "perceiving the ways that natural and social systems function as networks of relationships" and that "understanding relationship connectedness and context is central" (Barlow et al., 2012, para. 6). The affective dimension moves from the cognitive dimension to experiencing interrelatedness. The affective dimension involves developing empathy for all life which leads to moral sensitivity, moral character, and responsibility (Barlow et al., 2012). Active hope is compassionate action and engagement and involves doing rather than just seeing or perceiving. Seeing through eyes of interrelatedness require active hope and action if we are to avoid the overwhelming nature of such a worldview.

For adherents to an ecological worldview, connection to ecosystems that support human life takes on a deeper dimension. According to Dutcher et al. (2007), a sense of connectedness may encompass a spiritual sense of oneness with other-than-human life that is not based on our dependence or survival. They say,

> Although material interdependence is important, we believe that connectivity with nature arises not so much from knowledge of natural resource economics as from an intuitive sense of sameness with the world around (and within) us…. Connectivity attempts to describe the perception of a force or essence that holds the universe together —the same essence or force that runs through all creation. (p. 479)

It is this sense of connectivity that gives rise to environmental concern and behavior (Dutcher et al., 2007), making ecological worldview an important lens through which to understand connectivity. There is a sociological basis of connectivity linked to identity. Educators and

scholars are working with identity much the same as worldview in hopes of increasing human connectivity with nature.

Christopher Uhl's (2013) work focuses on shifting us to a more ecological worldview through an interdisciplinary framework that merges natural sciences with philosophy in hopes of cultivating ecological identity. Uhl refers to ecological worldview as ecological consciousness, where we develop an ecological worldview through integration of our knowledge, experience, and intuitions that make up the human experience. His desire to lead students to care about the earth, or in his words, "fall in love with Earth" (Uhl, 2013, p. xiii), is a direct plea to shift worldview.

Uhl focuses on the universe as a "process of becoming" (p. 21) rather than a place and in doing so, sets the stage for a re-visioning of worldview. He also provides an inviting, conversational platform for a multitude of worldviews to join in, including theological worldviews, scientific worldviews, and everything in between. By embracing that "first-order mysteries may always lie beyond" (p. 22) the reach of science, Uhl (2013) reduces tensions that might otherwise arise when worldview is challenged. The strategies he employs include consistent, reflective questions that encourage readers to dig deep into their own worldview and actions while embracing the awe he himself feels for the earth and its processes. Uhl (2013) does this through a focus on relationships – our relationship with something as simple as going outside and paying attention to what is going on around us, human relationships with earth's natural processes such as the sun and the seasons, and seeing with new "eyes of relatedness" (p. 30). A move toward a more ecological worldview involves strategic rethinking of the ways in which we engage with the world on both local and global scales. In some respects, embracing an

ecological worldview necessitates a retooling of our infrastructure, a reconstruction of our value systems, and a new imagining of what it means to be human in the 21st century.

Integration and Sustainability

Worldview and sustainability are connected, and studies have shown that the more integrative one's worldview, the more likely they are to engage in sustainable activities. In a qualitative exploration of the views and values of environmental leaders, Hedlund-de Witt (2014) found a clear connection between an integrative worldview and concern for planetary well-being. Hedlund-de Witt (2014) sees this emergent, integrative worldview as well-equipped to embrace conflict and contradiction because it recognizes the value and contribution from differences in perspective, values, and experiences.

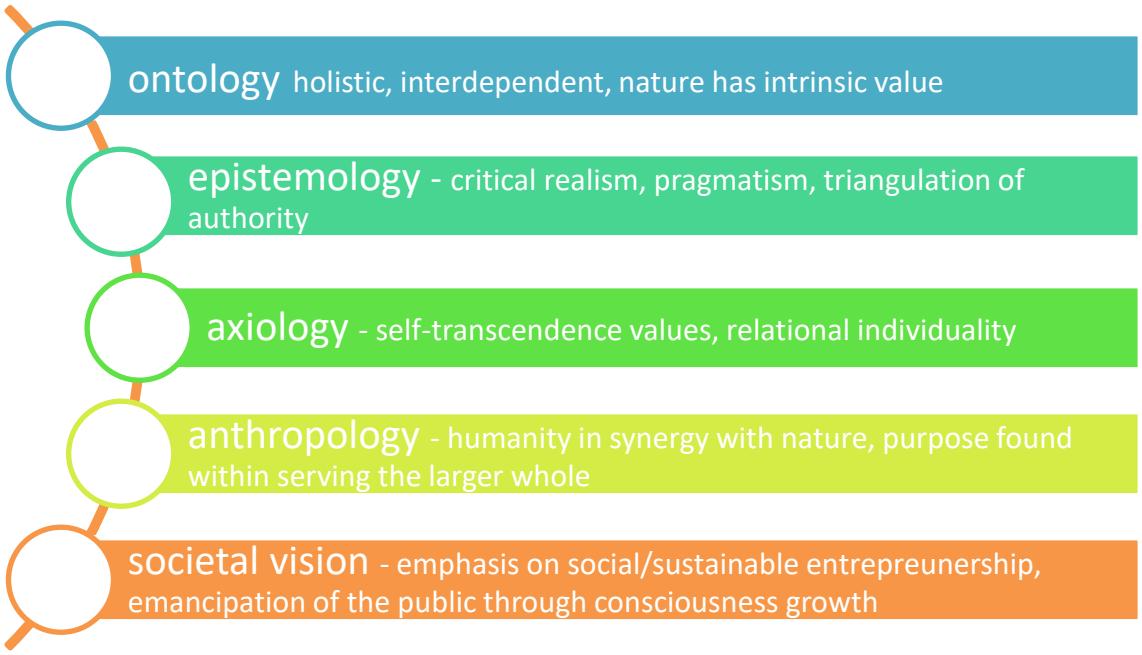


Figure 4. Characteristics of an Integrative Worldview

An important piece of the Integrative Worldview Framework is societal vision. Societal vision, or a social imaginary, gets to the heart of all other worldview components, as decisions

cannot be made on how we should organize society or solve its problems without compromise. An integrative vision includes the "emancipation of the public through consciousness growth and a synthesis of interests and perspectives as solutions to societal and environmental problems" (De Witt & Hedlund, 2017, p. 319). This helps us understand the way a group of people imagine their collective social life and is integral to worldview. Hedlund-de Witt (2013) states, "The social imaginary appears to be particularly relevant, because a shared vision can facilitate and inspire the needed technological, institutional, political, economic, and cultural innovations" (p. 8). The aims of societal vision are "to align, integrate, and synthesize environmental and sustainability values and interests with a diverse range of other societal values and interests, aspiring to cooperation and collaboration instead of polarization, in contrast with more conventional environmental approaches" (Hedlund-de Witt, 2014, p.213).

The worldview concept seems to be taking a reflexive turn which can lead to more sustainable behaviors as our everyday choices can be seen as "important drivers of spending patterns and economic trends" and are deeply embedded in our beliefs, attitudes, and values that comprise personal worldview (Hedlund-de Witt, 2012, p. 74). Behaviors are also difficult to alter because of the many structural barriers to change that exist such as sociocultural practices, economic and political infrastructures, and institutions. Global environmental issues and their impacts are increasing and reshaping understandings of humanity's place on earth, and as Hedlund-de Witt (2013) points out, they are

> requiring a more reflexive framing that takes into account the different worldviews, values, and perspectives through which we view, enact, and respond to environmental problems. Worldviews thus tend to be seen as vital in both the origination of

> environmental problems as well as in the search for and implementation of sustainable solutions. (p. 134)

In this light, the potential of an integrative worldview to impact behavior becomes more visible and the efforts to shift in this direction, more urgent. De Witt and Hedlund (2017) see greater self-reflexivity as "an essential prerequisite for crafting effective communications in service of solutions to complex socioecological challenges such as climate change" (p. 320). Both cultural self-reflexivity and psychological self-reflexivity are essential for a holistic view of root problems and potential solutions. Cultural self-reflexivity examines the collective elements of worldview while psychological self-reflexivity captures the individual within the collective and examines the more personal and emotional aspects of worldview. De Witt and Hedlund (2017) suggest that "communicators, strategists, and policymakers engage in a reflective inquiry with an eye for self-assessment of their own predominant worldview structure" to identify themes and patterns "of resonance or dissonance between the structural descriptors and one's own felt sense of one's predominant assumptions and values" (p. 322). Cultural and psychological self-reflexivity can also be effectively used by educators and leads to the discussion of transformative learning and how it impacts worldview.

Transformative Learning Theory and Worldview

Transformative Learning Theory provides an effective context for developing an integrative worldview. Some scholar educators also know from direct experience that collective learning does occur and that it can be a powerful precursor to social change. Social learning is part of the human experience and has become more important than ever in a world of rapid environmental change. I will discuss Transformative Learning Theory and its connection to

worldview using the following structure:

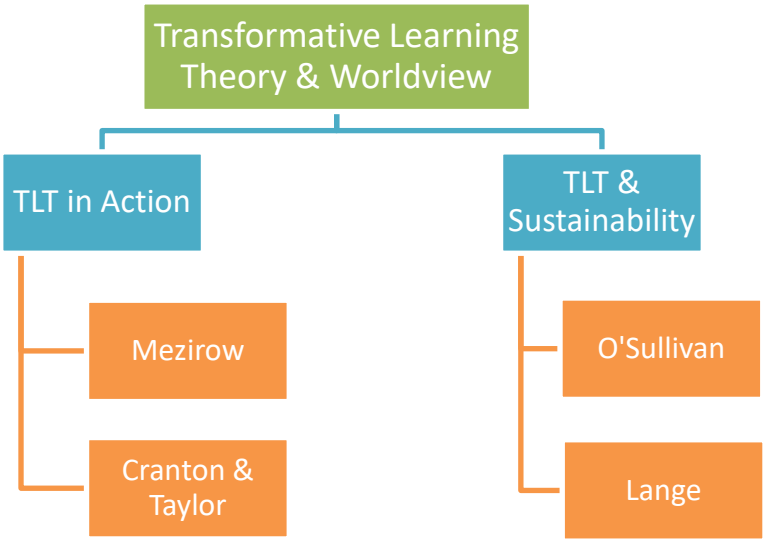


Figure 5. Transformative Learning Theory & worldview

Sociologist Jack Mezirow first presented his comprehensive Transformative Learning Theory (also referred to as Transformation Theory) in 1991 and furthered "understanding of how adults learn, transform, and develop" (Taylor & Cranton, 2012, p. 5). Transformative Learning Theory (TLT) results in "a deep shift in perspective, leading to more open, more permeable, and better-justified meaning perspectives (Mezirow, 1978)— but ways of getting there can differ depending on the person or people and the context or situation" (Taylor & Cranton, 2012, p. 3). How we see the world is a result of our perceptions of our experiences and transformative learning is "a process of examining, questioning, and revising those perceptions" (Taylor & Cranton, 2012, p. 5). Professors of adult education, Edward Taylor and Patricia Cranton (2012), note that while there are varying ideas about how transformative learning occurs, there are

common perspectives that define it "as cognitive and rational, as imaginative and intuitive, as spiritual, as related to individuation, as relational, and as relating to social change" (p. 7).

Mezirow claimed that, "meaning exists within ourselves rather than in external forms such as books and that personal meanings that we attribute to our experience are acquired and validated through human interaction and experience" (Taylor & Cranton, 2012, p. 5). If this is true, then meaning is subject to examination and revision. This is critical for shifting and

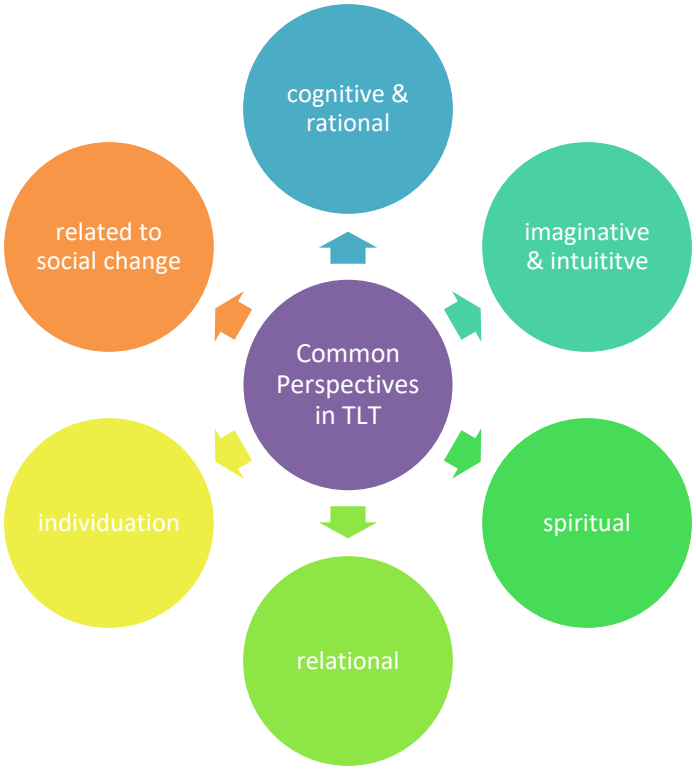


Figure 6. Common perspectives in transformative learning excerpted from Taylor & Cranton (2012)

developing worldview because we come to the university experience after we have "uncritically assimilate[d] perspectives from our social world, community, and culture" (Taylor & Cranton, 2012, p. 6). To shift worldview, both individual and collective, meaning, interpretations, and reference points for meaning become critically important. Learners are actively engaged through

critical reflection and discourse to question assumptions, expectations, and context to achieve deeper meaning and new perspectives to guide their actions.

Critiques of Transformative Learning Theory

Transformative Learning Theory and its practice are continuously evolving from Mezirow's (1991) original conception, a testament to its potential for framing and understanding what happens or does not happen in adult education. There is also evidence of continued interest in *fostering* Transformative Learning Theory (Taylor & Snyder, 2012). While Transformative Learning Theory continues to be a leading theory within adult education, this theory is not without critics. I will highlight two main criticisms that apply to my own study: how do researchers know learning outcomes result from transformation; and the theory's focus on individual change. Hoggan (2016) identifies the first critique as "the most common and valid of these critiques" which is that transformative learning "is used to refer to almost any kind of learning outcome and therefore has strayed from its theoretical foundations and no longer serves as a coherent theory" (p. 58). Newman agrees but (2012) goes so far as to say that "perhaps there is no such thing as transformative learning; perhaps there is just good learning" (p. 37).

The first holds some validity as "transformative learning is used to refer to such a wide range of phenomena that, if taken too far, could cause it to lose any distinctive meaning" (Hoggan, 2016, p. 60). This question concerned me over the course of my study but as my field notes indicate, there is a strong case for some level of transformation that occurred. I agree with Hoggan (2016) that,

> We want to believe that education can bring about profound, positive change in people's lives. We want our work to make a difference, and what better way to evaluate the difference we make than in the potential for learners to transform? (p. 59)

Newman (2012) does not accept the transformation narrative and claims that we may experience significant change, gain new knowledge or skills, even develop new attitudes, but learners are not undergoing "metamorphosis" (p. 38). In fact, Newman (2012) doubts that transformative learning even exists "as resulting transformations can only be verified by the learners themselves" (p. 39). Only a long-term self-assessment by the students will determine if transformation has occurred.

The second critique is the focus on transformative change in the individual rather than larger social change. This holds less weight as Mezirow's (1981) initial questions involved asking how educators can enact social change with the understanding that individual change is necessary. Hoggan (2016) rightly points out that, "Social structures indeed need to change, but profound learning at the individual level will be necessary along with those structural changes for substantive social change to occur" (p. 59). While one does not necessarily follow from the other, there are close connections between individual and social change.

Transformative Learning Theory in Action

According to Mezirow (2012), "Learning occurs in one of four ways: by elaborating existing frames of reference, by learning new frames of reference, by transforming points of view, or by transforming habits of mind" (Taylor & Cranton, 2012, p. 84). For example, an environmental humanities focus provides an effective platform to engage in transformative learning and affords students the opportunity to engage in any one of these four ways of learning. Students may expand their existing frames of reference to include a wide range of communities with diverse experiences within the human-environment relationship. Engaging narratives and other ways of knowing, a fundamental aspect of the environmental humanities, can offer students

new frames of reference and transform their point of view. The table below shows the phases of meaning that precede transformation (Mezirow, 2012, p. 86).

Table 1. Transformations Often Follow These Phases of Meaning

1. A disorienting dilemma
2. Self-examination with feelings of fear, anger, guilt, or shame
3. A critical assessment of assumptions
4. Recognition that one's discontent and the process of transformation are shared
5. Exploration of options for new roles, relationships, and actions
6. Planning a course of action
7. Acquiring knowledge and skills for implementing one's plans
8. Provisional trying of new roles
9. Building competence and self-confidence in new roles and relationships
10. A reintegration into one's life on the basis of conditions dictated by one's new perspective

Taylor & Cranton (2012) highlight Mezirow's (1991) cognitive approach and constructivist assumptions where meaning is "constructed through experience and our perceptions of those experiences, and future experiences are seen through the lens of the perspectives developed from past experiences" and this is where he theorized that learning occurs "when an alternative perspective calls into question a previously held, perhaps uncritically assimilated perspective" (p. 8). Transformative learning can occur when we encounter experiences or situations that are not congruent with our expectations at which point "we may reject the discrepant perspective or enter into a process that could lead to a transformed perspective" (Taylor & Cranton, 2012, p. 6)

Another important aspect of actively engaging with Transformative Learning Theory is that it is underpinned by humanist assumptions that are rooted in a Western perspective. Taylor and Cranton (2012) point out that "if we could not make the assumptions that people can make choices, have the potential for growth and development, and define their own reality, transformative learning could not be described as it is described" (p. 6). These assumptions are important as they may challenge student worldview.

Table 2. Humanist Assumptions That Underpin Transformative Learning Theory

Human nature is inherently good.
Individuals are free and autonomous, thus they are capable of making major personal choices.
Human potential for growth and development is virtually unlimited.
Self-concept plays an important role in growth and development.
Individuals have an urge toward self-actualization.
Reality is defined by each person.

Another central aspect of transformative learning is based on the idea that we "uncritically assimilate our values, beliefs, and assumptions from our family, community, and culture. In other words, we adopt the dominant ideology as the normal and natural way to think and act" (Taylor & Cranton, 2012, p. 7). Because of this uncritical assimilation, when we begin to question those assumptions and learn that perhaps the dominant ideology does not have our best interests in mind, we are presented with the opportunity for transformative learning. While Mezirow (1991) did not explicitly delve into social change, he was aware of the impact on individual thinking as he was focused on individual cognitive affects.

The humanist elements that underpin transformative learning are in line with Critical Social Theory where the goal is to "critique and change society as a whole rather than explain or describe it" (Taylor & Cranton, 2012, p. 7). This relates to the operationalization of the environmental humanities as there is an active component aimed at unsettling dominant narratives. Adult education scholar, Stephen Brookfield (2012, p. viii) gives three core assumptions of critical theory related to worldview or how the world is organized:

1. Though apparently open, Western democracies are actually highly unequal societies in which economic inequity, racism, and class discrimination are empirical realities

2. The way this state of affairs is reproduced and seems to be normal, natural, and inevitable (thereby heading off potential challenges to the system) is through the dissemination of dominant ideology
3. Critical theory attempts to understand this state of affairs as a necessary prelude to changing it

These assumptions are important in transformative learning pedagogy because it is the dominant ideology in a society that frame beliefs, assumptions, and perspectives that we use to make sense of our experiences. These assumptions may indicate characteristics of worldview and shed light on challenges in shifting worldview.

Both humanist and critical theory assumptions emphasize the applicability of Transformative Learning Theory to discussions of pro-environmental behavior, the development of sustainable societies, and ecological worldview. The next section highlights two perspectives on the connections between Transformative Learning Theory and sustainability.

Transformative Learning Theory & Sustainability

Professor of Education, Edmund O'Sullivan (2012), sees transformative learning as a "profound change in worldview" and defines it as a shift of consciousness that alters our way of being in the world. O'Sullivan, Morrell, and O'Connor (2002) offer a comprehensive definition:

> Transformative learning involves experiencing a deep, structural shift in the basic premises of thought, feelings, and actions. It is a shift of consciousness that dramatically alters our way of being in the world. Such a shift involves our understanding of ourselves and our self-locations; our relationships with other humans and with the natural world; our understanding of relations of power in interlocking structures of class, race, and

> gender; our body awarenesses, our visions of alternative approaches to living; and our sense of possibilities for social justice and peace and personal joy. (p. 11)

This view expands beyond Mezirow's (1991) cognitive approach and can be viewed as a collective approach aimed at transforming society as a whole. This view of transformative learning adheres to the core beliefs of an ecological worldview. O'Sullivan (2012) takes a strong stance that transformative learning is essential if human survival is to continue as the human-environment relationship has degraded to a critical level. He organizes his conception of transformative learning into three aspects: education for survival, education for critical understanding, and education for integral creativity. He states that "in this definition of transformative learning, there is an imperative to survive, critique, and create" (O'Sullivan, 2012, p. 166).

Education for survival means to increase the odds for human survival in the face of social, political, economic, and environmental catastrophe. O'Sullivan takes a sobering view on the state of society and holds that a deep understanding necessitates utilizing critical theory to push toward transformative learning. He goes so far as to say that we are experiencing a "deep cultural pathology" as evidenced by the decline in everything from human rights to economic systems to environmental devastation and "calls for a deep cultural therapy" that involves a "transformative mode of cultural criticism" (p. 167). Only then will we be able to engage in creative thinking that breaks away from hierarchical thinking, anthropocentric ideologies, and a more ecologically centered worldview. For O'Sullivan (2012) and other scholars in this area, our survival depends upon it.

Professor of adult education, Elizabeth Lange also sees a powerful connection between transformative learning and an ecologically centered worldview. She also holds Orr's (2004)

view that transformative learning in the face of contemporary problems is nothing short of a "reeducation of humanity" (p. 126). Lange's (2012) conception of transformation also includes the assumptions of critical theory as she asserts, "what may be important about transformation is not the initial disorientation, stages of change, or the discarded old form, but how the entanglements of structures, processes, and energy co-emerge into new patterns" (p. 203). The entanglements of structures and processes provide an avenue of inquiry essential to transformative learning and an ecological worldview.

To truly engage in transformative learning, Lange (2012) states, is to shed the modernist trappings that have brought us to this point. In contrast to a modernist, anthropocentric worldview, "ecological postmodernism recognizes the need for groundedness rather than abstractionism, recognizing that our well-being is predicated on our physical connections with the earth" (Lange, 2012, p. 199). She notes that various perspectives on transformative learning that challenge the modernist approach are emerging that include spiritual perspectives, feminist perspectives, postcolonial perspectives, and ecological perspectives (Lange, 2015). Seen from this lens, transformative learning is a powerful tool for developing ecological worldview.

Chapter 3: Methods

Narrative Inquiry

For the purposes of my study, I am interested in how experience with the environmental humanities as the context for a sixteen-week college writing course affects student worldview and how that is expressed over time. The brief duration of the course and constraints of the research limit the scope of the study but offer a window into the potential of grounding pedagogy in the environmental humanities.

From the humanities, I chose narrative inquiry as it is an excellent fit for both understanding what is happening in a writing-intensive classroom and what changes, if any, are occurring in the development of students' worldview. If "language is central to perception" then narrative inquiry aids in the analysis of student writing, cogenerative dialogue, and interviews (Cohen, et al., p. 294, 2018). The act of narrating can be viewed as a developmental process whereby persons become themselves through the stories they tell (Polkinghorne, 1991). Professor of Psychology, Collette Daiute (2014), states that:

> narrative research has indicated that in addition to being an activity for reporting personal experience and constructing identity, narrating is an activity for engaging with the world. An emphasis on activity, relationships, and diversity is important in this global era, characterized by increasing plurality of experiences, intercultural contact, conflict, and resource inequality (p. 14).

Narrative research is an effective way to explore the development and changes in worldview. Professor of Psychology, Michael Bamberg (2012), states that "with regard to what is special about narratives, it is commonly held that narratives serve the purpose for passing

along and handing down culturally shared values, so that individuals learn to position their own values and actions in relationship to established and shared categories and, in doing so, engage in their own formation process as a person" (p. 5). Daiute (2014) states the process aspects of narrative research and the emphasis on construction make narrative inquiry appealing for researchers engaged in identity work which includes the development of worldview.

Dahlstrom (2008) states that "narrative was no longer just for appreciation but had potential effects on how humans organize knowledge" (p. 19). Dahlstrom (2008) states that "it is generally accepted that narratives have the potential to influence real world attitudes even if the specifics are not yet understood" (p. 40). Narrative affects how humans organize knowledge and communicate what is meaningful. Ryan (2007) emphasizes the diverse quality of narrative but offers formal and pragmatic dimensions that can define narrative. For example, Ryan (2007) states that the "sequence of events must form a unified causal chain and lead to closure, the occurrence of at least some of the events must be asserted as fact for the storyworld, and the story must communicate something meaningful to the audience" (p. 29).

Narrative as an act for engaging with the world is an inherent part of an environmental humanities course as narrative is analyzed, constructed, and interpreted in a variety of ways. Narrative inquiry enables the intimate study of an individual's experience over time and in context (Clandinin & Connelly, 2000). Daiute (2014) refers to *dynamic* narrative inquiry as a framework for this type of investigation. Dynamic narrative inquiry is a social process, complex and interactive, and embedded in daily life. Caine et al (2013) say, "The researcher's presence and investment is an important feature of narrative inquiry research. In studying and understanding experience narratively, researchers recognize the centrality of relationships. Amidst these relationships, participants relate and live through stories that speak of their

experience" (p. 577). The relationship between faculty and students may be an asset to the study rather than a hindrance. College courses potentially offer an effective context for relationship development between teachers and students and between peers. Students may be united in a course by interests, struggles, experience, and any number of other factors. The faculty researcher is also a member of this discourse community. While in a position of authority (see discussion below on researcher bias and limitations) the faculty researcher is also a driver of community building efforts. Through this process, relationships develop and stories intertwine, influencing and revealing experiences, understanding, and narrative construction. (Figure 7)

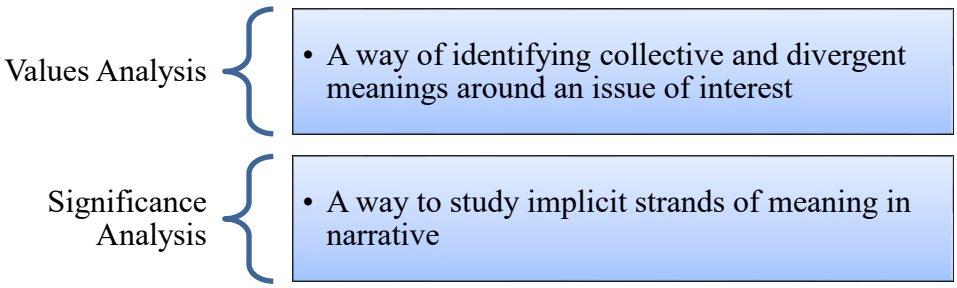


Figure 7. Analyses within narrative inquiry.

For richer understanding of the data I conducted both a values analysis and a significance analysis. A values analysis allows for the identification of both explicit and implicit value statements related to worldview. A significance analysis aids in the identification of evaluative statements that indicate elements of worldview. The first section that follows below discusses the values analysis and its importance in worldview.

Values analysis. For narrative analysis, I focused specifically on a values analysis. Identifying and understanding the values that underpin environmental narratives can further inform research on the impact curriculum in an environmental humanities class can have on worldview as values are a central component of worldview. Another important aspect of the

interplay between values and worldview is that "values are enacted rather than discussed, illustrated rather than announced. That is, narrators do not typically state values as such but are, instead, guided by them when planning or expressing narratives" (Daiute, 2014, p. 69). A values analysis examines the various expressions of value in narrative and by participants and diverse stakeholders. Stakeholders in a student's environmental narrative may be the students themselves, the campus community, family members, both natural and human-constructed environments, even the instructor in terms of what a student chooses to reveal in the narrative. For example, if an instructor mentions a tree playing a central role in her own environmental narrative, a student may choose to frame his or her own narrative around experiences with trees. What the student chooses to reveal in an environmental narrative captures more than experience. It provides insight into how the student views their relationships with the various stakeholders that have influenced the experiences. Daiute (2014) states, "Narrative is more than a means of communicating about personal experience. Narrating is also a means of social relations and social change, in part with the interaction of diverse values that organize meaning" (p. 68). The goal of coding for values is to identify patterns and the themes of values held by participants as they relate to narrative construction.

Significance analysis. Another aspect of narrative inquiry used in this research is a significance analysis. The significance analysis is the evaluative phase of meaning in narrative and identifies evaluative devices used by the narrator. Evaluative devices are "indicators of what a person wants to do with a narrative" (Daiute, 2014, p. 150). Evaluative devices are seen as individual style and are implicitly used to communicate meaning. Daiute (2014) sees the evaluative phase as having "dual narrating activities" one where meaning comes "more from the world" and one where the phase of meaning "directs interactively toward the world, between the

author and audiences" (p.153). At the most basic level, the way a story is told and the choices narrators make offers insight into why the story is told and the purpose behind the story.

Narrators communicate more than values, they express meaning and perspective. Significance analysis can identify referential and evaluative phases of meaning where one tells the story and the other purpose (Daiute, 2014). The referential phase is the explicit content that a narrator chooses to communicate. For example, a student may choose to focus on the story of a tree that stood in the backyard throughout childhood. The evaluative phase of such a narrative might include descriptions of the tree that include humanizing language such as "branches that hung down like hair." Nuanced choices of style and language can tell researchers more about meaning than just content.

To identify meaning in a significance analysis, researchers identify evaluative devices and the functions of those devices. Evaluative devices perform communicative functions for identifying language that may help uncover meaning include humanizing, minimizing, qualifying, intensifying, and connecting. Humanizing language offers insight into the psychological state of characters in narratives. *Minimizing* is an attempt to reduce tension in the telling of difficult or threatening events. Meaning may also be interpreted from qualifying words or phrases in a narrative. Qualifying often takes the form of descriptive words that convey a specific meaning regarding events, people, and settings in a narrative (Daiute, 2014). Intensifying language emphasizes meaning by using repetition or exaggeration for example. Connecting is when the narrator attempts to connect with audience members by including them in the meaning structures of the narrative. This may be indicated by the use of phrases like, "you know" or "we all see." The use of connecting language can garner empathy from the audience or attempt to build solidarity around issues.

The use of evaluative devices expresses “important information about how the author wants to be perceived with the story as well as how the author feels about it” (Daiute, 2014, p. 164). This is an effective way to unpack narrative data as stories are often laden with implicit meaning and significance, especially when the narrator is hesitant or less skilled at articulating explicit meaning. Communicating meaning through narrative is not a choice; it is a process of discovery. Utilizing the framework of a significance analysis, especially in a writing course, offered yet another set of tools to understand the nuances of worldview as communicated through student narrative.

For environmentally-focused autoethnographies this may offer deep insights and justifications for how we perceive meaning in relation to the environment. For the “autobiography of a future self” assignment, evaluative language discovered during a significance analysis can aid in understanding what students envision as a meaningful life. Evaluative devices are important indicators of worldview and how it may evolve over the course of a semester.

Daiute (2014) states that because narrating is a “dynamic process with meaning unfolding in time, speakers and writers rely on evaluative devices to share experience in the process of telling or writing” (p. 162). This is particularly interesting in the analysis of two narrative artifacts developed at different times within a sixteen-week semester because what happens in the time between the construction of the first and last assignments may contribute to shifts in worldview. My study aims to understand how an environmental humanities class affects, if at all, the way students construct worldview.

Strengths, Limitations, and Assumptions of the Methodological Approach

My study focused on how experience within an environmental humanities course affects student worldview. Although the environmental humanities can be taught in a plethora of ways with diverse interdisciplinary approaches, I desire to engage the emancipatory function of knowledge and to provide collective agency through reframing of choices that are under debate and scrutiny. Environmental historians, Emmett and Nye (2017) claim that "it is impossible to separate environmental analysis from discussions of western industrialization and imperialism, which together accelerated resource extraction, consumption, pollution, population growth, species extinction, and global warming" (p. 5) This inseparability of the questioning of power dynamics underpins the mission of the environmental humanities. As religion and environmental studies scholar Le Vasseur (2014) states, the environmental humanities involve asking "questions about cultural praxis in regards to human-nature interactions, and specifically what worldviews and values guide human behaviors within natural systems" and he claims to "instill in my students the ability to recognize interconnected issues of power, gender, class, race, and justice as we study resource use, economics, landscape engineering, environmental ethics, population dynamics, politics, and patterns of consumption" (p. 2). My pedagogy is grounded within this framework.

Using narrative inquiry, my research is built upon three assumptions: ontological, epistemological, and methodological. An ontological assumption includes seeing people as "meaning-making beings who actively construct their own meanings of situations and make sense of their world and act in it through such interpretations" (Cohen et al., 2018, p. 289). This assumption is critical in the development of student narrative and for understanding how students

interpret and express meaning. It also implies that meaning-making is an ongoing process and that new experiences can potentially impact worldview.

The epistemological assumption that "behaviour and, thereby, data are socially situated, context-related, context-dependent and context-rich" is also important in recognizing how important the impact of a classroom and its course content can be on student worldview (Cohen et al., 2018, p. 289). A major strength of this environmental humanities class is that it contextualizes environmental issues by placing them within personal narrative. Contextualizing environmental issues involves taking stock of individual and community experiences with the environment and viewing them through a cultural, social, and political lens.

My methodological assumptions hold that "the processes of research and behaviour are as important as the outcomes" (Cohen et al., 2018, p. 289). Just as I am interested in investigating any impacts the course has on student worldview, I also interested in the process of learning that students engage in during the course. My methodological assumptions give rise to questions of how student thinking about the human-environment relationship evolves over time when placed within an environmental humanities context and how do students articulate their relationship to the environment at various phases of the course.

Cohen et al. (2018) claim that "the social and educational world is a messy place, full of contradictions, richness, complexity, connectedness, conjunctions and disjunctions. It is multilayered and not easily susceptible to the atomization or aggregation processes inherent in much numerical research" (p. 288). A narrative study to explore worldview in an educational setting requires an interdisciplinary methodology that captures a "clear picture of the interaction of the individual and community at the level of classroom teaching and learning" (Blatt, 2010, p. 58) and that takes into account the ontological and epistemological assumptions.

As identified in the common threads that weave through the environmental humanities, critical analysis and discourse is a foundational concept aimed at unpacking the complex narratives that surround environmental problems. An environmental humanities class will necessarily immerse participants in diverse contexts, identifying systemic interconnections, power relationships and imbalances, and ways in which these relationships are expressed in culture, policy, and education. Whether the environmental humanities course is focused on art in sustainability, exploring the role of the arts in the creation of sustainable communities, or literature and the environment where the class is asking if our understanding of nature and the environment is conditioned by the ways in which writers have imagined it, at the heart of the discourse is ideological questioning, contextualization, and critical thinking. Simandan (2011) states, "Critical pedagogy is an educational theory that raises the learners' critical awareness regarding social conditions that are oppressive" (p. 246).

For an environmental humanities course, an added power dynamic that is either supported or resisted through values and ideology includes the natural environment and the other than human dependents. Methodologies from the humanities and the social sciences work in confluence for a more comprehensive understanding of worldview in student narrative but also in classroom dynamics and interviews. The integration of insights gained from both disciplinary areas strengthens data analysis and provides a rich description of classroom dialogue. The following section discusses the research context for my study.

The Research Context

The purpose of my study was to investigate if an environmental humanities course impacts worldview and if so, how? Embracing integration is a significant shift within worldview, especially important in working with young adult students, ages 18-25. Arnett (2007) refers to

emerging adulthood as a distinct life stage that occurs between the ages of 18 and 25, and that is a time when identity exploration is most likely to take place. Four distinct social movements have given rise to emerging adulthood which represents a prolonged period between adolescence and adulthood (Arnett, 2014). Emerging adulthood is specific to developed nations where the Technology Revolution, Sexual Revolution, Women's Movement, and Youth Movement of the 1960s and 1970s set the foundation that allowed for adolescents to engage in a prolonged journey toward adulthood (Arnett, 2014).

Arnett (2007) proposed five features that make emerging adulthood a distinct life phase that can be differentiated from adolescence and full adulthood. It is the age of identity exploration, the age of instability, the self-focused age, the age of feeling in-between, and the age of possibilities (Arnett, 2007, p. 69). Any of these elements may be present at various ages throughout the human lifespan, but what makes emerging adulthood unique is that it is the least structured time of a person's life all five features are present simultaneously (Arnett, 2007).

Emerging adult students today are part of Generation Z, digital natives born into a world of rapid change. The Varkey Foundation (2017) conducted a global citizenship survey asking critically important questions that included,

> Are they the disengaged teenagers lost in their smartphones and their immediate social network with no thoughts beyond? Or are they the smart, informed citizens of the world with just the qualities needed to address the world's most pressing problems? Are they tolerant and inclusive citizens who care for others, or are they preoccupied by only their immediate family and friends? Do they want to make a contribution to society, and if they do, why are they not getting involved? Is it a lack of confidence, a lack of knowledge or a lack of time? (p. 14).

Contrary to popular perceptions and cultural references, what the survey data showed was that Generation Z is optimistic and prepared to develop skills as change agents. Broadbent et al. (2017) note that "young people worldwide reveal themselves to be supporters of diversity, equality and liberal values across the world—even when those values run contrary to the laws of their country" and that the pace at which attitudes are changing is extraordinary" (p. 18). Perhaps most relevant to the discussion here is that young people view themselves now more than ever as global citizens rather than falling back on nationalistic tendencies. Despite the pessimistic and short-sighted messaging main-stream media often embraces, Generation Z seems to have awareness of and agree on issues that pose global threats. It seems that while the Varkey Foundation urges cautious optimism, we may in fact be heading towards a more integrative worldview.

With an understanding of noted tendencies amongst Generation Z students, I encouraged reflection and understanding of their relationship with the environment, cultural perspectives on the environment, and socio-political understanding of environmental issues. The required text was *Developing Ecological Consciousness, The End of Separation* by Christopher Uhl (2013) and was new to every participant. While I didn't explicitly state my own environmental views, when students asked directly for my opinion, I offered supportive research. (See Researcher Bias and Limitations for a more detailed discussion.) I encouraged students to offer supporting evidence for their views throughout the course. If the student lacked supporting evidence, I would encourage other students to offer what they could and then we would make time to pursue a credible source of information to support and inform the viewpoint.

I designed the course with a similar approach as Jurin and Hutchinson (2005). My curricular and pedagogical approach embodies aspects of "content, process and reflection, and to

allow students to reflect on all the different viewpoints" and "It was emphasized that there was no right or wrong in any of the content material, just the historical interpretations of situations, and alternative perspectives were given whenever possible" (Jurin and Hutchinson, 2005, p. 488). Rather than promote any particular stance on the human-environment relationship, I promoted critical thinking through research and evaluation of various sources, reflection through writing and classroom discussion, and an interdisciplinary approach using different disciplinary insights (such as sociology, economics, and psychology) to understanding complex problems. My enthusiasm for the book and course content was evident but I consistently focused on our student learning outcomes (as set by the Writing Instruction Program) of critical thinking and research-based inquiry rather than agreeing or disagreeing with content.

The research setting was one section of an Advanced College Writing course (the second in a series of required college writing courses), a general education requirement, at a four-year liberal arts university in Northern Kentucky with an estimated 15,000 students and a 19:1 student to faculty ratio. It is a suburban campus in a small southern city of approximately 7,000 residents. According the Office of Institutional Research at Northern Kentucky University, the university is 81% white with 32% of those students from states other than Kentucky. Approximately 13% of women join sororities and 9% of men join fraternities. The average age of full-time students is 21 and 85% of students live off campus or commute. While the university is attended by mostly white students, a commitment to increasing diversity and highlighting the educational and institutional benefits of diversity is evident in the "2022 Inclusive Excellence Plan: Catalyzing Institutional and Educational Excellence". This organized effort, comprised by students, faculty, and staff, aims to increase diversity and create a culture of inclusion.

Students enrolled in the course were not aware of the thematic design of the course (an environmental humanities curriculum) when they registered. The course met three days a week for fifty minutes. The study was described to the students and a consent form distributed to interested participants. Students were assured of anonymity and that names would be changed and no identifying information available. Students voluntarily agreed or declined to participate in the research. Eighteen of twenty-two students opted to participate in the research. Six of those students were freshman, nine were sophomores, and three were juniors. Seventeen were white, one self-identified as Hispanic, and one self-identified as Indian. There were eleven females and seven males of diverse majors, some undeclared, and included none from environmental studies or environmental science programs or departments. The next section describes the first narrative assignment collected.

Table 3. Demographic Information for Study Participants

Study Demographics

Year in college	Environmental Studies or Sciences college major	Ethnicity	Gender
Freshman (n=6)	0	6 white	4 female 2 male
Sophomore (n=9)	0	1 Hispanic 8 white	6 female (1 Hispanic) 3 male
Junior (n=3)	0	1 Indian 2 white	3 male

Document Analysis: the Autoethnography Assignment

My research captures narrative data through two assignments, the "autoethnography" assigned at week five and an "autobiography of a future self" assigned at week fourteen, allowing students an opportunity to explore through research-based writing both their own worldviews and those of others. The first assignment, the autoethnography, asked students to

write their own environmental narrative, choosing how to frame and explore their experiences with nature and culture. The last assignment, the "autobiography of a future self", using Chang's (2008) notion of autoethnography as combining "cultural analysis and interpretation with narrative details" rather than "descriptive or performative storytelling" (p.46). Autoethnographies use narrative inquiry approaches as researchers attempt to gain "cultural understanding underlying autobiographical experiences" (Chang, 2008, p. 48). Using students' perceptions of and relationships with the environment as the basis of autoethnographical construction, I explored possible underpinnings of students' worldviews and change over time, if any.

For the autoethnography assignment, students were asked to discuss ecological consciousness in the context of Christopher Uhl's (2013) book (see Chapter 2, section 2.1.3, page 16). They were to take what they had discovered about themselves up to that point in the course and the readings and to construct an essay around their own identity and experience with that of the environment.

An autoethnography is defined as a form of writing that analyzes some aspect of the intersection between self and culture. It is an exploration of personal identity in relation to an aspect of culture. Writing an autoethnography is an act of self-representation with the goal of problematizing social and cultural norms and practices through the lens of personal experience.

As a place to begin, I instructed students to consider the components below. In preparation for the coming assignment, I asked them to consider the following:

1. How do you feel about the five aspects (ontology, epistemology, axiology, anthropology, societal vision) of worldview and where do you stand?
2. Which area(s) are problematic in culture and society as you see it?

The assignment as it was given to students is available in Appendix A. It is important to understand both the context and the activities in which students participated in this study. The content students were reading, writing, and discussing during and between data sets #1 and #2 had the potential to impact their perspectives, opinions, and worldview. Students read articles from various scholarly and popular sources, but focused on Uhl's book as the core text for the course. Uhl's (2013) text is a welcome departure from discussions of what it will take to live more sustainable lives that focus on what we must forego, change, and restrict, often leaving students with feelings of loss, negativity, and hopelessness. Uhl (2013) states that his "work as a teacher of environmental science has been motivated by the simple question: How might we make sense of these times into which we have been born and, then, use this understanding to create lives filled with meaning and purpose?" (p. xiii). In approaching ecological consciousness this way, Uhl sets the stage for a new way of thinking that students consistently remarked upon. Uhl's goal with the text is to help students re-conceptualize what it means to be human in a world of increasing planetary stress and he organizes the book into three sections to support this endeavor: Part I: Earth, Our Home; Part II: Assessing the Health of Earth; and Part III: Healing Ourselves, Healing Earth. Not only does Uhl offer students the "necessary ingredient[s] for a good story" (p. xv) but offers evidence that a "new story of kinship and community and deeper purpose is already emerging" (p. xiv).

In addition to reading Uhl's book, students engaged in in-class writing sessions that set the context for class discussions. For example, based on a National Geographic video we watched together in class of young Indonesians working to clean up plastic pollution, students were asked the following:

> Consider the Indonesian example of the young men convincing the government to clean up the river. What does the narrative look like to the young men taking action? To the people who live along and depend upon the river for survival? How does this connect with your narrative? Think about your story of everyday life. How do you relate to the river pollution in the video?

Once students had time to consider the prompt, we connected both the story in the video with students' own experiences and discussed Uhl's notion of *old story* that gave rise to plastic pollution in the first place with the *new story* the Indonesian youth were creating. Consistently making connections between Uhl's text, students' own experiences, and real-world examples of both old and new stories offered students the opportunity to consider their own worldview, the worldview of others, and the consequent values and meaning enacted in the world.

Document Analysis: the Autobiography of a Future Self Assignment

I use the "autobiography of a future self*"* assignment, constructed at the end of the semester, for the second set of data. Autobiography, like autoethnography, can provide insight into how one makes meaning in the world and as Pascal (2015) notes developing an autobiography involves identifying certain stages in one's life, making links between them, and defining "a certain consistency of relationship between the self and the outside world" (p. 9). I use the "autobiography of a future self" writing project to gauge how students view themselves in the world after sixteen weeks in an environmental humanities class in much the same way Jurin and Hutchinson (2005) explored worldview with their American environmental history course but also to help students write themselves into a new way of being. Introducing students to environmental narratives from a variety of people and places offered them alternative visions of themselves in the world and what their future might bring. They were given the opportunity to

construct a future self that takes action on socioenvironmental issues. Jurin and Hutchinson (2005) discovered that their students became more tolerant of other worldviews during the American environmental history course. Student writing may reflect an ecological autobiography (Jurin & Hutchinson, 2005) and a more integrative worldview but also provide a way for students to write themselves into agency through the development of their own environmental narratives. The assignment as it was given to students is available in Appendix B.

Participant Observation and Field Notes

Participatory observation played a crucial role as I was able to intervene in classroom discussions and guide students to delve deeper into ideas and ask questions. I was also able to observe and take notes while students talked with one another. While maintaining a neutral position on value statements, I was overtly conscious of attempting to remain neutral regarding my own opinions while engaging discussions as a member of the discourse community (discussed in more detail below). Cohen et al. (2018) refer to the participant-as-observer as "a member of the group who reveals her/his role as an observer, whose knowledge of the group/situation may be intimate and who may gain 'insider knowledge', but who may lack the necessary objectivity to observe reliably and with whom confidences and confidential data may not be shared or given respectively" (p. 543). At the beginning of the course, I did not communicate my intention to analyze data from the course as a research project as I did not gain IRB approval until after the course began. This may have alleviated some hesitancy to communicate authentically on the students' part as we had already developed a relationship by the time I introduced them to the research project. By week five, it was my distinct impression based on the increased participation and enthusiasm for the assignments, readings, and

discussions that our discourse community was well on its way to becoming a space of inquiry, analysis, and discovery. I did not begin my research until after week five.

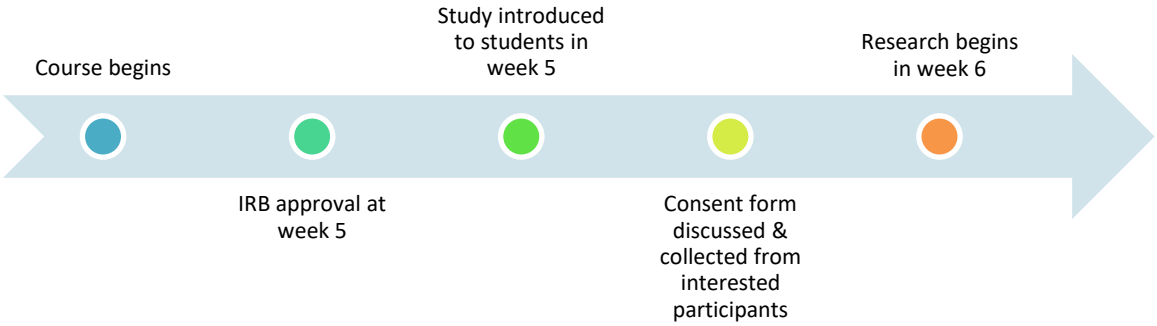


Figure 8. Study timeline

Borg (2003) states that entering a discourse community is usually "a matter of choice" and members "actively share goals and communicate with other members to pursue those goals" (p. 398). There can be many kinds of discourse communities, but written communication is central. An advanced college writing course is a discourse community with shared goals (if not interests) with communication at its core. That same course designed with an environmental humanities pedagogy and curriculum is a discourse community within the academy. Swales (1990) defined a discourse community by six characteristics:

(1) A discourse community has a broadly agreed set of common public goals;

(2) It has mechanisms of intercommunication among their members;

(3) It uses its participatory mechanisms primarily to provide information and feedback;

(4) It utilizes and possesses one or more genres to meet its communicative aims;

(5) In addition to owning genres, a discourse community has acquired some specific lexis;

(6) There are members with discoursal expertise as well as novice members.

These six characteristics are present in college classrooms but specifically in a writing course. The first characteristic is merely the goal to teach and learn. Students enroll in the course because it is required and because many explicitly state they would like to learn to be better readers and writers. The second characteristic involves intercommunication amongst the members or students and takes the form of discussions, email, papers, discussion board posts, and conferences. The third **c**haracteristic is like the second in that information is flowing back and forth to provide feedback via the mechanisms listed previously. The fourth characteristic involves using genres to communicate the goals of the discourse community and in this advanced college writing class, the genres included an autoethnography, an exploratory research paper, presentations, and an autobiography. The fifth characteristic refers to specific jargon acquired and agreed upon by the discourse community. For example, students quickly learned to discuss ethnographies, narrative construction, and worldview in ways that they had not previously been able. We developed a set of definitions and descriptors that we proceeded to use throughout the semester. The sixth characteristic states that there must be novices and experts in the discourse community and that members will change and evolve. While these characteristics are effectively identified in a college writing class, they are not always present in other types of courses where it is primarily a one-way exchange of information from expert to novice.

While the tone and mood are set by the instructor, the discourse community evolves as the course develops and participants get to know one another, yet there is still the question of power and stability. An expert gatekeeper leads the discourse community of the classroom, while participants are expected to conform to its rules and expectations. The power dynamic will always influence how the discourse community functions. Despite this, it is the best description for a college-level writing course and for offering a framework to understand what is occurring.

Field notes. As part of my participant observation, I kept field notes in which I would record my thoughts and observations directly after class as time permitted. Field notes are an appropriate source of data for narrative inquiry (Savin-Baden & Van Niekerk, 2007) and provide insight into shared experiences while capturing personal observations. Phillippi and Lauderdale (2018) assert that the "majority of qualitative research methods encourage researchers to take field notes to enhance data and provide rich context for analysis" (p. 381). It is the rich context that I needed to better understand the narrative data from students' assignments. Field notes can provide thick descriptions (Geertz, 2008) and valuable contextual data that deepens understanding of the significance of classroom conversations and insights in student writing. Phillippi and Lauderdale (2018) note that "While field notes for interviews and focus groups are best recorded immediately, contextualization of the study may be a recursive process throughout the study, with relevant information added based on participant comments" (p. 383). This aspect proved particularly useful as the course met three times a week and I was able to gain further insight into comments students made during particular curricular phases. I chose to do so after class to minimize distractions and keep conversations flowing. I included descriptive and reflective notes to make connections between what activities and readings we were covering and what spontaneously emerged in classroom discussions. I also included an emerging questions and analysis section to record potential areas of inquiry and to note patterns or themes. I used the following framework for notes:

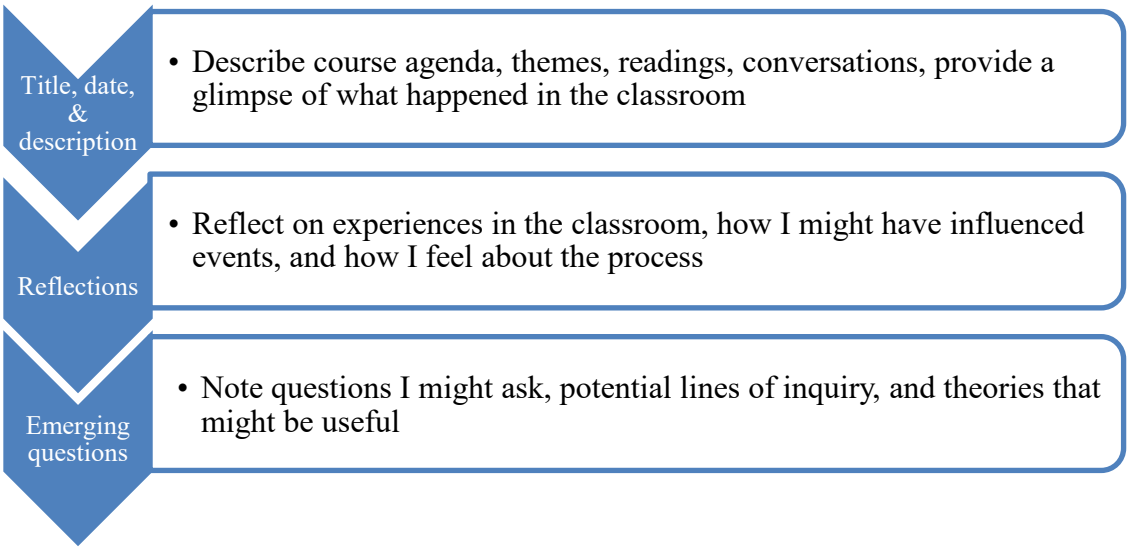


Figure 9. Template for field notes.

I also kept the idea of reflection open to include any observations that were not strictly dialogue. The social experience of a college classroom can influence how students think and feel about the topic being discussed, particularly if those topics are controversial or create cognitive dissonance (see chapter 5 more discussion regarding this phenomenon as part of transformative learning). At the level of reflection, Bogdan and Biklen (1992) assert that researchers can include reactions to ethical issues, tensions, problems, and dilemmas, as well as points of clarification that have been made or need to be made (p. 122). I included these reactions in my field notes.

While field notes are invaluable in qualitative research, "qualitative inquiry is not a neutral activity, and researchers are not neutral; they have their own values, biases and world views, and these are lenses through which they look at and interpret the already-interpreted world of participants" (Cohen, Manion, & Morrison, 2018, p. 302). Potential elements that influence field notes include "disciplinary sympathies of the researcher, researcher subjectivities and characteristics, personal motives and goals of the researcher" (Cohen, Manion, & Morrison, 2018, p. 302). I entered the research aware of role relationships and power dynamics that exist in any classroom situation and the struggle to maintain the balance between engagement in the

course and distance to observe what was happening between students and as a class. Tensions can arise in any fieldwork "because the researcher's own emotions, attitudes, beliefs, values, characteristics enter the research" (Hitchcock & Hughes, 1989). I was aware of my positionality in the research and made every attempt to clearly state my contradictory observations in my field notes. Cohen et al. (2018) note that "researchers are in the world and of the world that they research. They bring their own biographies and values to the research situation and participants behave in particular ways in their presence" (p. 302). As part of a unique discourse community, responsible for the time students spent with me and for their experiences with an unpopular general education course, I collected observations and conversations, and faithfully recorded field notes as best I could to preserve the integrity of the study.

Interviews. Informal, conversational interviews were conducted in this study to deepen understanding about changes in worldview from the students' perspective. Interviews provide further explanatory insight into textual data and offer a chance to better understand from the students' perspective how their worldview may or may not have been impacted. I invited all student participants to be interviewed once the semester ended. Of eighteen research participants, eight students volunteered for an interview. Cohen et al (2018) state that, "The interview is a social, interpersonal encounter, not merely a data-collection exercise" and I viewed my time talking with students after the course ended in this way (p. 506). They emphasize that the interview is intersubjective rather than exclusively subjective or objective and that "interviews enable participants—interviewers and interviewees—to discuss their interpretations of the world in which they live, and to express how they regard situations from their own point of view" (Cohen et al., 2018, p. 506). During the course we developed a relationship of trust that transcended the research process and as Cohen et al. (2018) note, it promoted a bond of

friendship and a feeling of togetherness (p. 507). Curiosity guided my interviews as I had a strong desire to know, beyond the research, how an environmental humanities curriculum impacts not only students' worldview but their experience in college-level writing.

Rather than press for answers to the questions posed, I assured them there was no right or wrong answer and that they were free to elaborate on the questions as they felt the need. The interviews were not audio recorded but notes were taken to ensure accurate recall. I offered students the space to reflect on their experience with the course, centered on the interview questions, and expand however they felt necessary. I asked the following questions:

(1) Between your first and last writing projects, do you think your worldview changed?
(2) How did your thinking change during the semester?
(3) Reflecting on our class, were there new concepts or ideas that changed how you view yourself in the world?

Cohen et al. (2018) states the purpose of the interview is to "explore issues in depth, to see how and why people frame their ideas in the ways that they do, how and why they make connections between ideas, values, events, opinions" (p. 506). (Findings from all data are discussed in more detail in Chapter 4. Coding procedures are detailed below.)

Applying the Integrative Worldview Framework

For narrative analysis, I use the Integrative Worldview Framework (Hedlund-de Witt, 2012), a conceptual framework that "enables one to operationalize the abstract and complex concept of worldview in the context of empirical research" (p. 75). The Integrative Worldview Framework (IWF) is useful for understanding how students understand and communicate their worldview because it offers a guide for construction of worldview as well as an interpretive framework to understand narrative data. De Witt and Hedlund (2017) assert that the IWF "has the potential to serve as (1) an heuristic for cultural and psychological self-reflexivity, (2) an

analytical tool for understanding worldview dynamics in society, and (3) a scaffolding for effective climate communications and transformative solutions" (p. 307).

Worldview is a slippery concept, one that is frequently found in the social science literature but is not bound by a formal theory (Koltko-Rivera, 2004 For this reason, I use the Integrative Worldview Framework to investigate the components of worldview expressed in student writing. Our worldview is shared by members of our culture or subculture and forms our perception of reality (Webster & Mertova, 2007). I used the IWF with students to both construct a more comprehensive worldview as people in general may neglect one aspect or other. The IWF, as constructed by Hedlund-de Witt (2012), is more "comprehensive (in both structure and content) and systematic, measures structural worldview-beliefs, and is able to account for human and cultural development and the cognitive possibility of integration, instead of working with a binary framework based on mutual exclusiveness or conflation of integrated with undifferentiated perspectives" (p. 79).

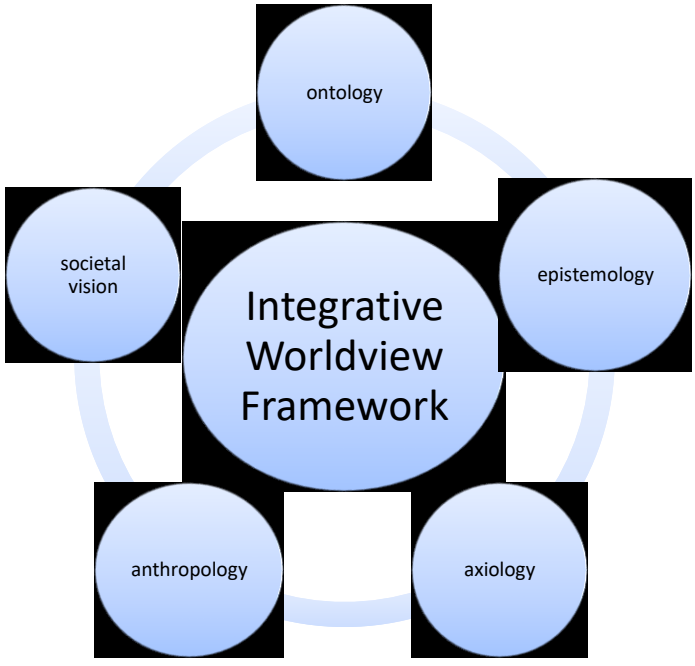


Figure 10. Components of the Integrative Worldview Framework

These particular aspects of worldview are important because they represent the psychocognitive ways humans make sense of the world that include how we understand the nature of reality, what knowledge is and how we come about it, what meaning is and how we construct it, how culture and society influence us, and how we ought to organize and problem solve. Looking at worldview in this way allows for both students and educators to understand the nuances of how we see the world and more importantly, ourselves in the world. De Witt and Hedlund (2017) assert that by "using these five worldview aspects as an organizing scheme, this framework offers a synoptic overview of the structure and systematic interrelationships of the predominant worldviews in (but not limited to) the West" (p. 307).

Although challenging, students appreciated the guidance that a framework like the IWF offers. When asked to discuss their worldview, students immediately asked, "What do you mean by worldview?" Few young adults have a safe and nonjudgmental space in which to delve into the components of their worldview and to articulate their challenges and stances in narratively constructing that worldview. Students may construct a narrative of what they think and believe about the world but the IWF provides a structure for organization, categorization, and a more comprehensive look at what they believe and why and hopefully, relate worldview to their everyday actions and decisions.

To investigate student worldview I analyzed the narrative data in four ways: coded for expressions related to worldview, analyzed the components of worldview through the five aspects (ontology, epistemology, axiology, anthropology, and societal vision) of the Integrative Worldview Framework (Hedlund-de Witt, 2012), identified values expressed in the narrative data, and lastly, identified evaluative devices and significance markers to understand key components of meaning in

student narrative.

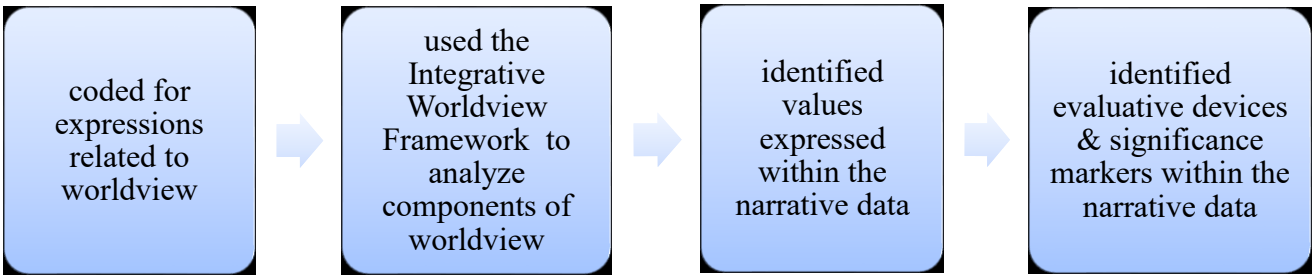


Figure 11. Steps taken to code narrative data

After submitting all grades for the semester, I re-read each narrative in the autoethnography assignment for words and phrases indicative of worldview. I waited to collect data from student narratives so as not to be influenced by my dual purposes and roles relating to the assignments; one being as evaluator of the work (a rubric was used for grading to keep me on task and not looking for my research data) and the other as a researcher interested in patterns and indicators of worldview. General words and phrases, as shown below, occurred frequently and I used those to begin the categorization process. I looked for patterns and themes indicative of attitudes and beliefs. I then created parent codes in the MaxQDA software based on Hedlund-de Witt's (2013) Integrative Worldview Framework (IWF). I placed those words and phrases indicative of worldview within the five categories of ontology, epistemology, axiology, anthropology, and societal vision.

After identifying basic categories for grounding the analysis in worldview components in which students chose to engage, I repeated this process over and again to identify anything related as closely to the five components of worldview as possible. Although students were offered guidance, the concept of worldview was often articulated in vague ways, with students

claiming that they were not always sure what made up their worldview. I discuss this in more detail in Chapter 5 Stages of Worldview Development.

Values and Significance Analysis within the Integrative Worldview Framework

To analyze the autoethnography, I used the Integrative Worldview Framework as an interpretive framework. Once I analyzed and coded the narrative data to better understand and interpret meaning within the five aspects of the IWF, I conducted both a values analysis and a significance analysis to understand key components of meaning in student writing. See Figure # for the steps of a values analysis.

I chose the qualitative software MAXQDA to sort and code both my textual and interview data and found it to be useful and elucidating in parsing complex student narratives. I coded each narrative artifact (both the autoethnography and the "autobiography of a future self") according to expressions related to worldview. For example, a phrase like "Reality isn't a concept, it isn't some theory or belief. It is what you see and feel. We know it is real because we know the choices we make have an impact" were coded as indications of worldview. I then identified values within those expressions such as "I want to do more than be an innocent bystander." I then coded explicitly stated values such as "a good life for me would be just being financially comfortable and having a loving and wholesome family in a nice little house*"* and then identified implicit values. For example, I considered the statement, *"*I grew up in [the] suburbs, that kind of environment is all I know. And honestly, that's the best kind of environment"an implicitly stated value as it wasn't expanded upon in the narrative.

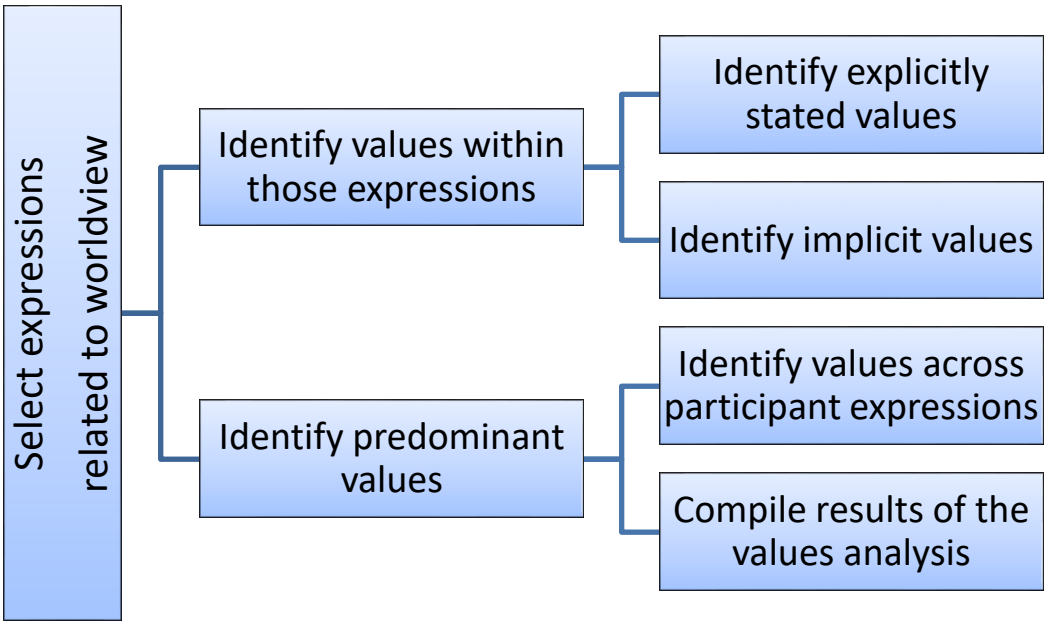


Figure 12. Steps taken to conduct a values analysis

Next, I coded the predominant values that showed up in the narrative data such as the importance of awareness of environmental issues and taking an active role in spreading awareness. I then identified the values (condensed into phrases such as "personal responsibility") across participant expressions.

The next analysis I conducted was the Significance Analysis. A Significance Analysis identifies evaluative devices and the functions of those devices and while it is challenging to fully understand a narrator's motivations, it offers insight into the ways in which students communicate meaning through writing. For example, using MAXQDA, I coded phrases that contained significance markers. Identifying evaluative devices gave me deeper insight into what students found meaningful in their autoethnography as they constructed a narrative centered on their relationship with the environment.

Significance markers were also useful in interpreting meaningful aspects of worldview. For example, I coded phrases that didn't necessarily convey values as in the Values Analysis but

contained negations indicating fear, loss, and disconnection to nature. The way students use evaluative devices to communicate the significance of events, places, impressions, and relationships informs my understanding of their worldview and its development. A significance analysis provides another angle to interpret narrative data, another net to cast and capture meaning that contributes to students' worldview.

After I collected and coded narrative data, I conducted interviews. Eight students volunteered to be interviewed. Five interviewees were white males, one Indian male, and two white females. The interviews lasted approximately ten minutes, with some students choosing to talk for near fifteen minutes. Interviews provided a different way of looking at worldview as they were student-led, spontaneous in their content, and informal. While I had specific questions prepared, I listened to the students, asking questions only for clarification and commenting only to affirm or respond. They were conducted after the course ended to provide a more relaxed, less formal atmosphere.

Researcher Bias and Limitations

Research studies of this kind provide plenty of opportunity for bias. As previously discussed, I was acutely aware of the power dynamics that exist in every classroom and especially in an intimate writing classroom. While it may seem that a writing course is a context-free, even value-free zone, it is anything but. In "Writing and Knowing: Toward Redefining the Writing Process" Reither (1985) states that "we need to extend our understanding of the process of writing so that it will include not only experience- and memory-probing activities, but also inquiry strategies and techniques that will enable students to search beyond their own limited present experience and knowledge" (p. 624). As part of an inquiry community students and instructors alike are engaged in not only analysis and reflection but in other ways of knowing which is essential for understanding the complex personal, social, political, and economic

aspects that underpin environmental problems. This is where the environmental humanities reveals diverse ways of knowing; it opens the discussion to include multiple disciplinary perspectives, the lived experience of students, and a variety of communication pathways. In my research setting, students engaged in narrative construction but also explored diverse expressions of the human-environment relationship from readings on environmental autoethnographies to video series on how climate is impacting communities across the globe to Ted Talks exploring planetary citizenship.

Not only is the writing classroom an open-context opportunity, it could be argued that it is an ideal venue for uncovering meaning and understanding in various areas that contribute to environmental problems. It is the place where worlds are analyzed, deconstructed, envisioned, and constructed once more through writing. Preston (2015) makes a strong case for considering writing as "assemblage" and claims that, "to regard writing as culture is to recognize language as symbolic action, the means by which we construct worlds and express realities" and that the writing classroom is "a dynamic dialectical space of expression, a space in which ideas circulate, regenerate, shift, and produce anew – an assemblage" (p. 39). I approached this study with this pedagogical approach to remain true to the spirit of the environmental humanities but also to minimize bias from my philosophical leanings and lived experience.

Educators have acknowledged that there is an inherent danger in teaching as certain values may be emphasized over others and that indoctrination can become an issue, even influencing outcomes in the course and in students' day-to-day lives. However, Thomashow (1996) urges that as long as we are teaching through a perspective of "critical thinking and values clarification", it is possible to allow students to think apart from the teachers' influence (p. 68). For me, the environmental humanities is a mode of inquiry aimed at helping us reframe

our relations to the environment (Niemanis et al., 2015) and exists as a result of decades of critical thinking and questioning of values. Engaging in the environmental humanities is an exercise in critical and interdisciplinary thinking in relation to real-world socioenvironmental issues.

Managing bias and the role of the researcher. Researchers are acutely aware that managing bias is essential. It is critical to ensure credibility of one's participant observations and field notes Blatt (2010). Peshkin (1988) emphasizes that researchers have a responsibility to identify their biases, but acknowledges that researchers "already are aware of their subjectivity and its possible impact on their work" and that there ought to be an "enhanced awareness that should result from a formal, systematic monitoring of self" (p. 20). I was acutely aware of my own bias in terms of the subject matter in the course and attempted to channel my enthusiasm toward the spirit of inquiry rather than specific content. Blatt (2010) states that "By being open about our biases, we can provide an honest framework by which others may read and interpret our description and analysis" (p. 95).

As an instructor and researcher, managing bias is particularly challenging and has required ongoing vigilance as cogenerative dialogues became fruitful and I was often surprised by insightful student responses and questions. Tempering my excitement so as not to lead students to favor responses that appeared to be desired was important as I was trying to identify authentic changes in worldview. Because the development and evolution of worldview takes place over time, it was important for me as the instructor and researcher to encourage a good deal of reflection on our readings, questions that came from the readings, video support, and discussions.

An aspect of managing my bias as instructor and researcher was to understand my own assumptions as I went into the classroom each day. Beginning with my own ideas as a reference in regard to what an integrative worldview looks like for college students was a first step in managing bias. Certain assumptions are inherently couched within teaching an environmental humanities class, such as reaching an understanding of the human-environment relationship is crucial to making pro-environmental decisions. A second assumption is that planetary citizenship ought to be a priority just as any other group identity might be. A final assumption is that ecological thinking, or as Uhl (2013) states *ecological consciousness*, is the most effective way to understand both the human-environment relationship as well as engage in responsible planetary citizenship. Each week I was careful to observe the ways in which I might influence student contributions to cogenerative dialogue and written assignments. I recorded these thoughts in the reflections sections of my field notes.

Limitations, ethics, and validity. Studies conducted by professors in classrooms also offer unique limitations. One limitation is the lack of generalizability of the study findings. With this study, I cannot claim that all environmental humanities will have a similar impact on student worldview. While one environmental humanities writing class may contribute to a change in worldview that is more integrative, it does not follow that similar classes will have the same influence. There were also limits to being completely objective as a researcher due to the influences of my own background and experiences. As discussed, my own assumptions and orientations influence my perception of what changes may or may have taken place in the students constructed worldview.

There are also limitations with both obtaining and interpreting narrative data. My population sample represents one university and limits the inquiry to the experiences and

contextual background of participants. Collecting narrative data in the form of classroom assignments is efficient and routine but can be challenging in terms of students not following the assignments and the instructor providing feedback for revisions that does not lead to a biased perspective in hopes of obtaining "more usable" data.

Another challenge is designing narrative assignments that capture worldview without leading students to construct what they perceive to be what the instructor desires may prove challenging which brings me to power dynamics in the classroom. Power dynamics between researcher and participants is an important topic for all teachers but undergraduate college students may be particularly vulnerable to pressures for acceptance and validation as the transition into higher education can find many under-prepared for both academic and life challenges. The course is limited to twenty-two students and results in an intimate, discussion-based environment. My experience is that a small writing course becomes a space open for critical dialogue that may become emotionally and psychologically charged as students navigate their way through unchartered terrain while balancing heavy academic and economic workloads. Because of the classroom environment, it was imperative that I be clear that as the teacher and researcher, I am not soliciting specific responses nor are evaluations, grades, or assessments dependent upon specific responses. I stated this clearly in the consent form and repeated verbally in the classroom but as human beings, we are never fully at ease with being studied by someone in authority. In reference to researchers, Lefstein (2010) asks,

> How actively and in what ways should they contribute? And in particular, how forthcoming should they be in sharing their views with research participants? One approach to this issue is to adopt what I term a non-reciprocal communicative stance, in which the researcher attempts to minimise disclosure of his or her own opinions and

> perspective, at least with regard to the topic of research. The alternative, reciprocal communicative stance, involves engaging in a more open exchange of ideas with the research participants, voicing one's perspective in the reciprocal to and from of conversation (p. 82).

Lefstein (2010) states the "reciprocal communicative stance might involve voicing disagreements, sharing ideas with participants about how to cope with the problems facing them, or feeding back research findings" (p. 82). In an environmental humanities research-based writing course, this type of reciprocal communication is imperative as these activities aid students in developing a cognitive toolkit which meets the learning outcomes as established by the university. Lefstein (2010) also claims that in "certain situations a reciprocal communicative stance has the potential to improve research knowledge" (p. 84). In his own research with British primary educators, he takes both a reciprocal communicative stance in part of the study and a nonreciprocal stance in another aspect of the study (Lefstein, 2010). He emphasizes that the researcher can pose questions and still hold a reciprocal communicative stance. For me, part of reciprocity was assured by communicating with students that grades are based on a rubric that meets the learning outcomes of an advanced writing course and not what they say specifically about worldview. I was also careful to not privilege pro-environmental stances over other stances and opinions.

A final limitation is in the realm of narrative itself. Dahlstrom (2008) states that narratives are sometimes deemed distortions or even falsifications of the truth and should not be trusted. These antinarrativists point to the fact that there are no empirical procedures of verification; a narrative claiming to be true does not differ in appearance or structure from one that contains no truth (p.19). Despite claims of distortion or falsification of truth, narrative

remains a central way that humans both communicate and understand the world around them. Narratives underpin both how we perceive and construct our realities.

In addition to limitations, validity in such a study must be considered. What criteria must a narrative study meet for validity? Lieblich et al. (1998) offer four criteria by which a narrative study might be measured for validity: width or the comprehensiveness of evidence; coherence or the way the different elements create a complete and meaningful picture; insightfulness or the sense of innovation in the presentation and analysis; and parsimony or the ability to provide an analysis based on a small number of concepts as well as having literary merit. Understandably, validity would include evidence to support the researcher's claims about interpretation as well as providing internal coherence to show how the narrative artifacts work together to create meaning over time. However, external coherence in Lieblich's (1998) sense incorporates how the research compares to existing theories and previous research. While my narrative data ought to be able to be evaluated in terms of the Integrative Worldview Framework (Hedlund-de Witt, 2012), there is little available research to compare the impact an environmental humanities class has on ecological worldview. Studies conducted like that of Jurin and Hutchinson (2005) can offer insight and a level of external coherence by comparing worldview components in student writing. My research results may offer curricular strategies for what is possible in an environmental humanities class but not offer a universal set of guidelines applicable to diverse situations. The innovation or insightfulness aspect of Lieblich's (1998) criteria for validity applies to my dissertation research questions and methodology and will hopefully prove to be both useful to scholars and educators engaged in environmental work.

Chapter 4: Data Analyses Using Narrative Inquiry and the Integrative Worldview Framework

As discussed in the methods chapter, the purpose of my study was to better understand how an environmental humanities course affects student worldview and how students, if any, may express that impact through narrative construction. Narrative inquiry is an excellent fit for textual analysis and "has also come to refer to a worldview, a certain way of presenting events, the normality and morality of those events, characters, and related factors" (Daiute, 2014, p. 32). The narrative data provided a rich picture of what students perceived to be problematic, hopeful, and relational in terms of their own experiences and their hopes for the future.

Results from Analysis of the Autoethnography Assignment

The autoethnography showed a fair amount of engagement with components of the integrative worldview framework as well as expression of values. There were more occurrences of negative values in the autoethnography and more engagement with ontological beliefs in worldview. A notable finding is the frequency of significant occurrences in data set 1 that do not occur in data set 2. For example, students expressed fear, powerlessness, and longing as significant in their autoethnographies but not in the "autobiography of a future self" data set. These findings are discussed in more detail in subsequent sections. The following table shows the total number of occurrences identified in the narrative data.

Table 4. Total Number of Occurrences in the Autoethnography Assignment

Code System	Autoethnography Data Set #1
Societal vision	11
Ontology	11
Anthropology	11
Axiology	7
Epistemology	2
Longing	10
Wonder	11
Discovery	10
Fear	11
Powerlessness	3
Imagination	2
Restoration of self	5
Protection of nature	1
Lack of awareness	18
Active responsibility for nature	20
Disconnection from nature	32
Damage to nature	24
Benefits of nature	4
Impacts on people	19
Civic responsibility	0

Results from the Integrative Worldview Framework Analysis

While students struggled both verbally and in writing with worldview and the components of worldview as presented by Hedlund-de Witt (2013), as observed in class and assignments, the majority chose to include phrases that indicated their positions in relation to societal vision, ontology, and anthropology using the questions in the diagram below as frames for thinking about these important areas of human experience and cognition.

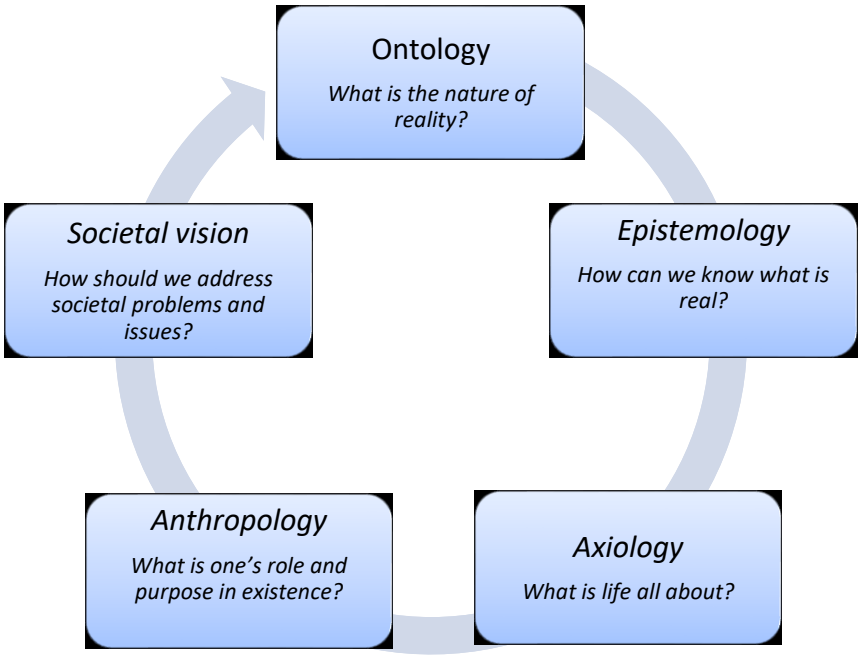


Figure 13. Five aspects of the IWF according to Hedlund-de Witt (2013)

Table 5. Integrative Worldview Components Identified in the Autoethnography

Code System	**Autoethnography Data Set #1**
Societal Vision	11
Ontology	11
Anthropology	11
Axiology	7
Epistemology	2

Table six shows excerpted phrases of worldview components discovered in the autoethnography narrative data. Findings from the autoethnography viewed from the lens of the IWF indicate strong feelings about societal vision, most notably that we have a responsibility to influence a more positive vision of society including sustainable behavior. For example, Jane states, "We, as a culture and as an influential power of the world, need to start the transition into our new story. We need to reduce, reuse, recycle, and repurpose our resources. This will not only help our country, but the whole world!" Others, like Lane, thought that a positive vision for society involved having more focus and opportunity for expressive communication, particularly

artistic expression. He states, “Care for the Earth will come rolling into pop culture in no time if we were finally given the chance to sit down artistically express our feelings to friends, enemies, etc.”

Table 6. Coded Segments From the IWF Analysis for the Autoethnography

Code	Coded Segments
Societal Vision	We, the global population of this world, have the great responsibility of influencing the electric vehicle movement. Everything stems from somewhere, and the progression will only advance with one crucial requirement—awareness. Autoethnography Data Set #1\autoethnography_gary_11778_188874: 9 - 9 (0) We, as a culture and as an influential power of the world, need to start the transition into our new story. We need to reduce, reuse, recycle, and repurpose our resources. This will not only help our country, but the whole world! Autoethnography Data Set #1\autoethnography_jane_11991_189680: 10 - 10 (0) Permeable morality that is not found in Christianity must be taught to children to allow them the freedom to express their own virtues and hopefully allow them to see and act on climate change. Autoethnography Data Set #1\autoethnography_mike_12176_189730: 12 - 12 (0)
Axiology	Throw capitalism out, it doesn’t work anymore. Autoethnography Data Set #1\autoethnography_lane_6800_189699: 11 - 11 (0) Care for the Earth will come rolling into pop culture in no time if we were finally given the chance to sit down artistically express our feelings to friends, enemies, etc. Autoethnography Data Set #1\autoethnography_lane_6800_189699: 11 - 11 (0) Our sense of community will eventually spread to care for all living things, and then the Earth as a whole. Autoethnography Data Set #1\autoethnography_lane_6800_189699: 11 - 11 (0) Our lives are at risk, which is the only sales pitch you need because climate change will require a revolution of human society. From the infrastructure of

our current system stems an urge to understand and live in harmony with the surroundings of the Earth.
Autoethnography Data Set #1\autoethnography_lane_6800_189699: 13 - 13 (0)
It is the responsibility of our government, educators, and parents to step up and lead by example to cease the abuse on our beloved Earth and the people within it.
Autoethnography Data Set #1\autoethnography_samantha_10491_199898: 10 - 10 (0)

It is up to us world, to make this planet home again, because of right now our culture is becoming extinct.
Autoethnography Data Set #1\autoethnography_renee_11755_186430: 9 - 9 (0)

This false individual journey takes away from the truth of the collective journey through this universe that we all share on this planet. The guidance that people desire does not need to be found by a separate institution or even a deity.
Autoethnography Data Set #1\autoethnography_mike_12176_189730: 14 - 14 (0)

Having an open mind toward peers, community, morality, and earth will ultimately guide a person to many objective truths as well as a rich and fulfilling life that enables the individual to love all forms of life on our planet.
Autoethnography Data Set #1\autoethnography_mike_12176_189730: 14 - 14 (0)

I needed to engage elsewhere and pull away from “life.” I needed to take a step back. I channeled my energy into the outdoors, into running with the fresh air, and into the beautiful, real life around me. This is what gave me peace. It’s funny because by pulling away from my busy “life,” I got to see life in a new way. I saw it from the perspective of the real and genuine things around me. I felt completely renewed.
Autoethnography Data Set #1\autoethnography_lucy_11333_188217: 8 - 8 (0)

I think we all just need to slow down and enjoy the beauty of life.
Autoethnography Data Set #1\autoethnography_lucy_11333_188217: 12 - 12 (0)

I loved experimenting with sticks in mud, sand castles, campfires, fishing, hiking, camping, bike riding, skateboarding, etc. I did everything outside.
Autoethnography Data Set #1\autoethnography_lane_6800_189699: 6 - 6 (0)

Anthropology	My overall goal is to do mission work to help reduce problems such as lack of water and sanitation access. Autoethnography Data Set #1\autoethnography_jane_11991_189680: 11 - 11 (0)
	We all rely on each other for help with the production and resources. Autoethnography Data Set #1\autoethnography_jane_11991_189680: 11 - 11 (0)
	The morality I have been taught my entire life has limited my potential for growth and awareness of issues that plague myself, mankind, and all of life planet earth simply because of my exposure to willful ignorance and narrowmindedness. Autoethnography Data Set #1\autoethnography_mike_12176_189730: 5 - 5 (0)
	This oneness is difficult for many to comprehend, as most would view themselves and their beliefs as completely separate from everyone else's. Autoethnography Data Set #1\autoethnography_mike_12176_189730: 14 - 14 (0)
	We are unintentionally and intentionally responsible for all of our actions and thoughts Autoethnography Data Set #1\autoethnography_lane_6800_189699: 5 - 5 (0)
	Humans are curious creatures, capable of critical thought. Autoethnography Data Set #1\autoethnography_lane_6800_189699: 5 - 5 (0)
	I am now more aware than ever that our environment and the dangers we pose to ourselves, will only speed up our own extinction (given that we don't change anything). Autoethnography Data Set #1\autoethnography_lane_6800_189699: 6 - 6 (0)
	I became very angry at the world like most teenagers, because I realized that everyone, including me, had no idea what was going on with life. Autoethnography Data Set #1\autoethnography_lane_6800_189699: 10 - 10 (0)
	It is crucial to constantly challenge your own thoughts and feelings with a sense of purpose. Autoethnography Data Set #1\autoethnography_lane_6800_189699: 10 - 10 (0)

	We should be asking ourselves: What are we capable of? What should we achieve, what should we change? Autoethnography Data Set #1\autoethnography_lane_6800_189699: 13 - 13 (0)
	We are treating our planet as if it were our own 24/7 hour trash bag that is clipped the side of our hips, this is an issue that we must stop or our world will fall apart before we know it. Autoethnography Data Set #1\autoethnography_renee_11755_186430: 9 - 9 (0)
Ontology	Just constant ups and downs and with a short-lived calm in between. Autoethnography Data Set #1\autoethnography_david_10972_189715: 2 - 2 (0)
	I don't think there is anything divine. Autoethnography Data Set #1\autoethnography_david_10972_189715: 2 - 2 (0)
	Reality isn't a concept, it isn't some theory or belief. It is what you see and feel. We know it is real because we know the choices we make have an impact. Autoethnography Data Set #1\autoethnography_david_10972_189715: 3 - 3 (0)
	The false belief that religion precedes and creates morals for people to follow is very concerning for those vulnerable to misinformation. Autoethnography Data Set #1\autoethnography_mike_12176_189730: 11 - 11 (0)
	how truly one we are with earth and every aspect within it Autoethnography Data Set #1\autoethnography_mike_12176_189730: 14 - 14 (0)
	Reality is broad, ominous, scary, unknown, Autoethnography Data Set #1\autoethnography_lane_6800_189699: 5 - 5 (0)
	The more we learn the more we know that we know relatively little. Autoethnography Data Set #1\autoethnography_lane_6800_189699: 5 - 5 (0)
	I am a religious person but I am also an empiricist, so I believe in a mixture of cold truth, yet warm community Autoethnography Data Set #1\autoethnography_lane_6800_189699: 7 - 7 (0)
	After four years of college, my thoughts have drastically changed.

	Autoethnography Data Set #1\autoethnography_lane_6800_189699: 8 - 8 (0) Hinduism was impressive to me because it stressed a need to be attached to the environment (something I never felt in Catholocism). Autoethnography Data Set #1\autoethnography_lane_6800_189699: 8 - 8 (0) The universe really is everything and anything, but what we perceive to be reality is totally different then what our spirits see. Autoethnography Data Set #1\autoethnography_lane_6800_189699: 8 - 8 (0)
Epistemology	Evidence is the key to knowledge Autoethnography Data Set #1\autoethnography_david_10972_189715: 3 - 3 (0)

The first assignment, the autoethnography, also indicated more inclusion of ontology than the second assignment, the "autobiography of a future self," and can be largely attributed to the readings in *Developing Ecological Consciousness* (Uhl, 2013). Up to the point of creating a personal narrative in the form of an autoethnography, students had focused on discussions in the book that included belonging to something greater than ourselves, coming to awareness, and community (Uhl, 2013). Ontological phrases that captured the essence of questions posed in the reading included "I am a religious person but I am also an empiricist, so I believe in a mixture of cold truth, yet warm community" (Lane) and "I see how truly one we are with earth and every aspect within it" (Mike). Other readings during this phase of the course included readings from the Center for Humans & Nature and choosing from the "What Happens When we See Ourselves as Separate From or as a Part of Nature" series as well as "Re-Membering Ecological Self: A Personal Narrative Autoethnography" by Eric Windhorst (2016).

There was a strong presence of the anthropology component from the IWF. This held true for both assignments and it appeared that students were much more apt to entertain questions of who or what is the human being in relation to culture and society and what is one's

role and purpose in existence (Hedlund-de Witt, 2013). Phrases ranged from philosophical stances like “oneness is difficult for many to comprehend, as most would view themselves and their beliefs as completely separate from everyone else’s” (Mike) to specific beliefs about the purpose of one’s life, “to do mission work to help reduce problems such as lack of water and sanitation access” (Jane).

Student responses indicating axiological thought, to what makes a good life or a quality life that gives fulfillment, ranged from broad ideas such as, “Having an open mind toward peers, community, morality, and earth will ultimately guide a person to many objective truths as well as a rich and fulfilling life that enables the individual to love all forms of life on our planet” (Mike) to more specific notions such as, “I believe in that a good life for me would be just being financially comfortable and having a loving and wholesome family in a nice little house” (David). Approximately 80% of students expressing some sense of an axiological position included the concepts of oneness with other life on the planet as well as being in the natural environment.

Epistemology was the component least evident in the autoethnography. Despite its near-absence, those who did include ideas about how we gain knowledge or know what is real, unanimously felt that it must be experiential. For example, David asserts “Evidence is the key to knowledge” and “We know what we know because we experience it. Hands on learning is the best way of learning and the only way for us to learn about ourselves and the world around us.” This is significant in that Uhl (2013) encouraged a visceral connection with the physical earth and to cultivate *kairos* versus *chronos* (p. 26). To better experience a sense of present moment more often, Uhl (2013) suggests students go outside first thing in the morning and simply experience the physical reality of the day, and to do the same in the evening. Uhl’s (2013) idea is to

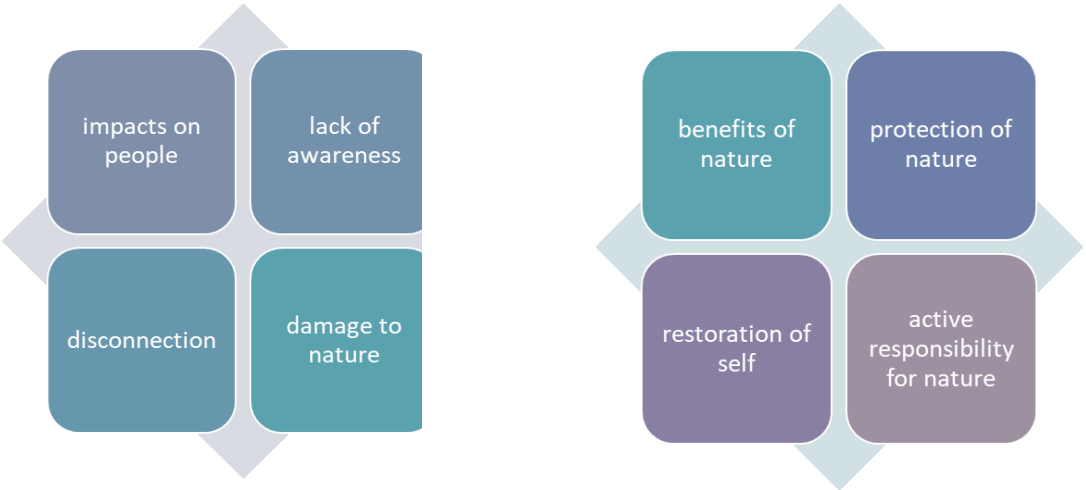
"resynchronize" our biological clock to the rhythms of the earth (p.26). In classroom discussions, this was a surprisingly novel idea for students.

After critically reading through each narrative several times and considering what could relate to the categories in the IWF, I turned to a values analysis. There are of course overlaps. Phrases, even whole paragraphs that indicated an axiological position could indicate a value. For example, a statement like, "we need to spread awareness" indicates a value that we have a personal and social responsibility to spread awareness is both an ethical value and a statement about the purpose of being human. As the course developed this became an overarching theme.

Figure 14. Coded values derived from a values analysis of autoethnography assignment.

Results of the Values Analysis

For richer understanding of the data and any impacts an environmental humanities curriculum



may have had on student worldview, I conducted a values analysis. A values analysis allows for the identification of both explicit and implicit value statements related to worldview. I coded value statements into the following areas indicated by negative perspectives on values and positive: impacts on people, lack of awareness, damage to nature, disconnection, benefits of nature, active responsibility for nature, protection of nature, and restoration.

Table 7. Occurrences of Values Identified in the Autoethnography

Code System	Autoethnography Data Set #1
Restoration of self	5
Protection of nature	1
Active responsibility for nature	1
Benefits of nature	4

Table 8. Occurrences of Additional Values Identified in the Autoethnography

Code System	Autoethnography Data Set #1
Lack of awareness	18
Disconnection from nature	32
Damage to nature	24
Impacts on people	19

The codes arose from the most common occurrences of descriptions of experiences, relationships, observations, and ideas. The categories fell within two general frameworks; one indicating a sense of what is going wrong with our relationship with the environment and one focused more on the positive aspects of our experience with nature and our responsibility toward nature. It is important to note that categorizing values often involved interpreting the meaning of a value as expressed through negative attributions. For example, a statement like "When I saw the shooting star, it made me think about how sad it was that I had never seen one before, and I was already a legal adult. I had never seen a shooting star before because of air pollution," indicates the value of seeing natural phenomena unimpeded. Through negative attribution, the student emphasizes a value that they hold yet missed until adulthood.

Table 9. Coded Segments From the Values Analysis for the Autoethnography

Code	Coded segments

lack of awareness	New Yorkers are always running and never stopping to literally smell the flowers on the side Autoethnography Data Set #1\autoethnography_anne_11883_189626: 8 - 8 (0) They idolize their phones but not the trees that give them air to breathe. Autoethnography Data Set #1\autoethnography_hope_11737_186767: 11 - 11 (0) Younger generations are so connected online that they have become disconnected from the real world. Autoethnography Data Set #1\autoethnography_hope_11737_186767: 11 - 11 (0) If the younger generations are so consumed with the online world and not the Earth that is sustaining them then we will have no hopes of saving our Earth from the endless problems scientists continue to say are growing worse every day. Autoethnography Data Set #1\autoethnography_hope_11737_186767: 11 - 11 (0) We can hear news stories about pollution, climate change, and water crisis's but we don't see it. Autoethnography Data Set #1\autoethnography_hope_11737_186767: 12 - 12 (0) We don't go out into nature and spend time with the Earth to realize why it is worth saving. Autoethnography Data Set #1\autoethnography_hope_11737_186767: 12 - 12 (0)
disconnection from nature	never been hiking Autoethnography Data Set #1\autoethnography_anne_11883_189626: 2 - 2 (0) everyone has a phone in their hand and do not pay attention to what is around them Autoethnography Data Set #1\autoethnography_anne_11883_189626: 3 - 3 (0) nature is not on their agenda Autoethnography Data Set #1\autoethnography_anne_11883_189626: 3 - 3 (0) They never grew up to appreciate nature because there is not enough to appreciate it. Autoethnography Data Set #1\autoethnography_anne_11883_189626: 3 - 3 (0)

impacts on people	They idolize their phones but not the trees that give them air to breathe. Autoethnography Data Set #1\autoethnography_hope_11737_186767: 11 - 11 (0)
	If the younger generations are so consumed with the online world and not the Earth that is sustaining them then we will have no hopes of saving our Earth from the endless problems scientists continue to say are growing worse every day. Autoethnography Data Set #1\autoethnography_hope_11737_186767: 11 - 11 (0)
	the world is continuously handling the repercussions of climate-change-influenced events rather than preemptively preparing for them. Autoethnography Data Set #1\autoethnography_gary_11778_188874: 7 - 7 (0)
damage to nature	one of the costs for suburbs is the potential mass clearing of the existing natural environment already there Autoethnography Data Set #1\autoethnography_david_10972_189715: 7 - 7 (0)
	most individuals should understand or have experienced the effects of fossil fuel pollution. Autoethnography Data Set #1\autoethnography_gary_11778_188874: 5 - 5 (0)
	These prescriptions are affecting our fish and sea life and we are seeing astonishing differences in their way of life. We excrete these through our bodily functions and think they just disappear while in fact it all goes back into nature. Autoethnography Data Set #1\autoethnography_tina_11160_186872: 6 - 6 (0)
	We have all of this water, but we waste over 1 trillion gallons of it per year Autoethnography Data Set #1\autoethnography_jane_11991_189680: 8 - 8 (0)
	The unwillingness to change and the stagnation of critical thought has propelled this country into a direction that is directly harming the planet. Autoethnography Data Set #1\autoethnography_mike_12176_189730: 12 - 12 (0)

In coding both implicit and explicit value statements, I had the benefit of class discussions to understand the context in which students constructed their narratives. This strategy

also supplied a richer understanding of meaning structures that underpinned their values. For example, when a phrase like *"the battle against drugs has affected ourselves and our environment around us more than we realize"* I had the contextual insight of this particular student's experience that included a family member's struggle with opioid addiction. The fact that drug abuse also affects waterways, landfills, and other animals, added to the concern and frustration for this student and complicated her value system much more than she initially expressed in class. Daiute (2014) states,

> Another aspect of defining narrative values is to acknowledge that values are enacted rather than discussed, illustrated rather than announced. That is, narrators do not typically state values as such but are, instead, guided by them when planning or expressing narratives. Narratives report facts and imaginings, but values guide their selection and arrangement. Although usually implicit, values are extremely important aspects of narrative meaning. (p. 69)

Overall, narrative data from the autoethnography indicated a strong awareness of the negative impacts people have on the environment and the benefits the natural world has on humans. For example, students said things like, "our environment is killing us, but our environment hasn't always been this way" (Renee).

An awareness of human responsibility for the environment also arose as a value. For example, Michelle felt strongly that "Millennials are the future and we need to educate others about our world's issues." Others stated things like "it's important for everyone to become better informed so that we may all attempt to find solutions and alternatives" (Savannah) and "If there is anything specific that I want you to take away from this, next time you look into the sky at night and see stars, think about conserving that moment for your kids, and even your kid's kids"

(Cameron). Students, regardless of their ontology, indicated that humans have a distinct responsibility for the natural environment and that part of that responsibility includes teaching and leading others to care. I discuss this in more detail in Chapter 5 Stages of Worldview Development.

Results from the Significance Analysis

After the values analysis, I looked deeper into phrases that indicated meaning and significance that were not necessarily values. Daiute (2014) states that narrators communicate more than values, they express meaning and perspective. Significance analysis can help identify meaning and perspective, offering insight into often overlooked areas, as they are not expressed as explicit values. For example, phrases that did not necessarily convey values contained negations indicating fear, loss, and disconnection to nature. I interpreted this as significant from a student's perspective as these phrases were prevalent in the autoethnography data set. Relationships, observations, or experiences considered meaningful are not necessarily values. For example, I interpreted the statement, "I desire to taste honeysuckle again and remember what it felt like to truly feel wild. Most importantly I want my brother to know what honeysuckle tastes like" (Hannah) as not necessarily a value but as the longing for wildness, indicating a quality or experience meaningful for the student that can influence worldview.

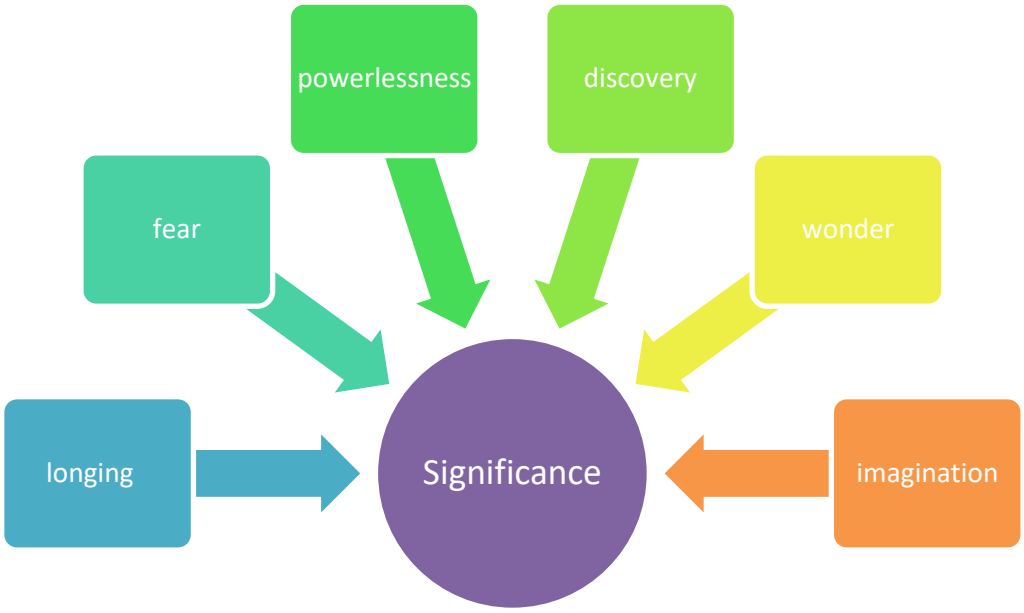


Figure 15. Categories of significance found in the narrative data from the autoethnography.

Daiute (2014) notes, "narrating experience is a social process, a person's perspective is unique yet always relational". Relationality is particularly important in this study as immersion in the environmental humanities allows space for students to analyze their own worldview and those of others. In doing so, worldview components become more apparent as students talk about meaningful, significant experiences. Table shows occurrences of phrasing indicating significance.

Table 10. Frequency of Occurrences of Significance

Code System	**Autoethnography Data Set #1**
Longing	10
Wonder	11
Discovery	10
Fear	11
Powerlessness	3
Imagination	2

What is perhaps most significant is the reduction in the second data set, the "autobiography of a future self", of codes related to fear, powerlessness, and longing. When given the opportunity to

imagine their future selves, students focused more on values such as civic responsibility versus negative feelings, observations, and experiences.

Table 11. Comparison of Significance Analysis in Assignments

Code System	Autoethnography Data Set #1	Autoethnography Data Set #2
Longing	10	1
Wonder	11	
Discovery	10	1
Fear	11	1
Powerlessness	3	
Imagination	2	

The occurrences of significance were reduced in the second data set, the "autobiography of a future self" assignment, not only due to the focus on positive values but the first assignment captured a past narrative full of experiences and remembrances that gave rise to elements like longing, wonder, discovery, and fear. In looking backward at one's past experiences of nature versus imagining a future self, this makes sense.

Results From Analysis of the Autobiography of a Future Self Assignment

The "autobiography of a future self" assignment also indicated a fair amount of engagement with components of the integrative worldview framework as well as a shift in values expressed. Overwhelming concern that people should have an active responsibility for nature transformed into a firmer stance that it is a civic responsibility, one that we are duty-bound to engage as planetary citizens. A notable change was the lack of significance markers surrounding negative attributes such as fear and powerlessness. These shifts are discussed in more detail in subsequent sections.

Table 12. Comparison of the Frequency of all Codes in the Assignments

Code System	Autoethnography Data Set #1	Autobiography Data Set #2
Societal vision	11	11
Ontology	11	2
Anthropology	11	15
Axiology	7	18
Epistemology	2	3
Longing	10	1
Wonder	11	
Discovery	10	1
Fear	11	1
Powerlessness	3	
Imagination	2	
Restoration of self	5	1
Protection of nature	1	3
Lack of awareness	18	1
Active responsibility for nature	20	2
Disconnection from nature	32	1
Damage to nature	24	
Benefits of nature	4	1
Impacts on people	19	4
Civic responsibility		12

Results from the Integrative Worldview Framework Analysis

Components of worldview were present in both assignments with notable shifts in focus. The "autobiography of a future self" engaged much less with ontological notions and moved toward axiological positions. This is expected as most people would prefer to consider what makes a purposeful life rather than deeper questions of the nature of reality. Axiological notions are also frequently more tangible and for college-aged students, this can be a zone of comfort rather than unease as they negotiate new values, belief systems, and experiences.

Table 13. Comparison of the Frequency of Integrative Worldview Components

Code System	Autoethnography Data Set #1	Autobiography Data Set #2
Societal vision	11	11
Ontology	11	2
Anthropology	11	15
Axiology	7	18
Epistemology	2	3

During this time, students were reading the chapter in Uhl's (2013) book called "Birthing a New Story". This correlates with the increase in expression of axiological beliefs as well as the slight increase in the engagement with the anthropological aspect of the integrative worldview framework. Meaning and purpose began to be expressed more explicitly and was more evident in the "autobiography of a future self". For example, Lane said, "I have a passion in life that started in college to help every community I am part of and make the United States a greener country." As students were constructing the "autobiography of a future self", the context of the course centered on envisioning oneself in a new story, one based on interdependence and civic responsibility. Table 14 shows coded segments from the results of the integrative worldview framework analysis.

Table 14. IWF Analysis for the "Autobiography of a Future Self"

Code	Coded segments
Societal Vision	I will pass this way of life to my children and grandchildren and remind them that Earth is our only place to live; it is our duty to take care of this planet. Autobiography Data Set #2\autobiography of a future self_anne_11883_245251: 8 - 8 (0)
	Society should be organized in which is best for humanity and allows it to move forward in advancement that betters it as a whole. This would allow humanity to become better and not as damaging to itself. Autobiography Data Set #2\autobiography of a future self_david_10972_245257: 7 - 7 (0)
	we must not forget the importance of our elders who gave us the initial opportunity of life. Therefore, our parents, guardians, and protectors deserve the affluence of wellbeing. Autobiography Data Set #2\autobiography of a future self_gary_11778_245457: 13 - 13 (0)
	take responsibility, challenge yourself, persevere through hardship, lead your peers, support others, and never stop growing Autobiography Data Set #2\autobiography of a future self_gary_11778_245457: 14 - 14 (0)
	I can now say that we live in a world where people realize that the art makers, creativity thinkers, imagination builders, and storytellers are vitally important to connect us, grow us, and sustain us as human beings.

	Autobiography Data Set #2\autobiography of a future self_hope_11737_245040: 6 - 6 (0)
	I will continue to strive to liberate citizens from collectivism, taxation, tribalism, corporatism, and retain our human rights. Autobiography Data Set #2\autobiography of a future self_james_7813_245262: 16 - 16 (0)
	We have to learn how to leave things alone and just watch Autobiography Data Set #2\autobiography of a future self_lane: 17 - 17 (0)
	What they valued was how much an individual contributed to the tribe's well-being by caring and providing for each other. These people valued this type of currency the same way people see money today, but the only difference is that buying things today does not grow us closer together. Autobiography Data Set #2\autobiography of a future self_mike_12176_245272: 22 - 22 (0)
	I feel that we can help remedy this problem of inequality and a willingness to stagnant knowledge if schools begin to promote a learning style that offers students a way to grow not only their common core knowledge, but just their personal and societal growth and thoughts. Autobiography Data Set #2\autobiography of a future self_savannah_11219_259727.docx: 5 - 5 (0)
	if we want change in the world we must first look within. We can be the change we need if we work together. Autobiography Data Set #2\autobiography of a future self_tina: 8 - 8 (0)
Ontology	The purpose of each person's life is all up to them. They decide what they do with their lives. There is no specific purpose for them to perform other than to live it. That's the nature of the reality. Autobiography Data Set #2\autobiography of a future self_david_10972_245257: 2 - 2 (0)
	That is the purpose for humanity, is to just live until there is no humanity left. There is no limits as to what humanity can achieve but there will be a time where sun sets of humanity. Whether that end is self-inflicting or not within our control. All things come to an end. Autobiography Data Set #2\autobiography of a future self_david_10972_245257: 5 - 6 (0)
Anthropology	I have a passion in life that started in college to help every community I am part of and make the United States a greener country Autobiography Data Set #2\autobiography of a future self_anne_11883_245251: 8 - 8 (0)
	The American culture and the society of being from a lower middle class family has influenced me along with the events and troubles that I have

experienced has made me the person I am today. The human being is the product of what their society and culture is.
Autobiography Data Set #2\autobiography of a future
self_david_10972_245257: 5 - 5 (0)

Every individual possesses the capability to alter the universe *forever*
Autobiography Data Set #2\autobiography of a future
self_gary_11778_245457: 6 - 6 (0)

Each of your decisions—regardless of importance, complexity, or proportion—contain enough influence to drastically modify the future of yourself and others around.
Autobiography Data Set #2\autobiography of a future
self_gary_11778_245457: 6 - 6 (0)

I believe everyone exists for a particular reason and should utilize every opportunity possible.
Autobiography Data Set #2\autobiography of a future
self_gary_11778_245457: 9 - 9 (0)

You are truly never isolated within this world because the future of others is impacted by your decisions throughout their entire life—and inversely, their past decisions impact and create the definition of *you* and your future self.
Autobiography Data Set #2\autobiography of a future
self_gary_11778_245457: 9 - 9 (0)

I embraced adaptability, creativity, and willingness to expand and progress my knowledge, which altogether created a core representation of myself that I would follow forever.
Autobiography Data Set #2\autobiography of a future
self_gary_11778_245457: 10 - 10 (0)

I quickly adopted that mindset and focused on pursuing my definition of success, the ability to: take responsibility, challenge yourself, persevere through hardship, lead your peers, support others, and never stop growing.
Autobiography Data Set #2\autobiography of a future
self_gary_11778_245457: 10 - 10 (0)

Stories, to me, are the foundation of what makes life worth living. They are what connects us as human beings, we are storytellers at heart. Our entire existence is based on the fact that we crave to be understood. If no one understood us, if no one connected to us, if no one heard our story, who would we be? Life is about sharing your story to help others learn, grow, and above all, life is about giving other’s hope.
Autobiography Data Set #2\autobiography of a future
self_hope_11737_245040: 11 - 11 (0)

	Learning to grow our imaginative and creative sides from a young age will help us grow into individuals who will want to share. Stories transport us to places we have never been to meet people we have never met so we can learn to understand a different perspective. Autobiography Data Set #2\autobiography of a future self_hope_11737_245040: 11 - 11 (0)
	we need to become ecologically conscious and it taught me that everything in life is connected Autobiography Data Set #2\autobiography of a future self_jane: 11 - 11 (0)
	I realized that everything I do, waste, and say will affect other people around the world. I felt connected enough to help other people that I never would know had I not followed my heart. Autobiography Data Set #2\autobiography of a future self_jane: 11 - 11 (0)
	I spent a lot of my childhood playing outside and interacting with plants and animals Autobiography Data Set #2\autobiography of a future self_kevin_9207_245216: 5 - 5 (0)
	my goal in life has been to strive to make a difference in young people's lives Autobiography Data Set #2\autobiography of a future self_tina: 9 - 9 (0)
Axiology	Don't consume your life with worry. Make a mark on this Earth and bring joy to others Autobiography Data Set #2\autobiograhpy of a future self_samantha_10491_243802: 10 - 10 (0)
	My family is everything and everything I do is for my family Autobiography Data Set #2\autobiography of a future self_anne_11883_245251: 7 - 7 (0)
	I have learned to be aware of my surrounds and how I can contribute my time and effort. Autobiography Data Set #2\autobiography of a future self_anne_11883_245251: 8 - 8 (0)
	What gives life meaning is up to the person. Their choices reflect who they are and what type of person they will become. A good life is up to set person Autobiography Data Set #2\autobiography of a future self_david_10972_245257: 4 - 4 (0)
	Life is all about living, it truly relies on the person to make the choices that their will feel like made their life worth living.

Autobiography Data Set #2\autobiography of a future
self_david_10972_245257: 4 - 4 (0)

I live and am fueled by creativity and imagination, especially in nurturing it in young people because I believe it is a skill everyone needs to have if we are to care for ourselves and others.
Autobiography Data Set #2\autobiography of a future
self_hope_11737_245040: 5 - 5 (0)

Having empathy is what makes us human and only stories can give us that.
Autobiography Data Set #2\autobiography of a future
self_hope_11737_245040: 11 - 11 (0)

When I see myself after 10-20 years, I see I have good job, good family and doing good things for society and environment.
Autobiography Data Set #2\autobiography of a future
self_kevin_9207_245216: 8 - 8 (0)

All of my childhood promoted experimentation, discovery, curiosity, optimism, and the overall pursuit of happiness or joy.
Autobiography Data Set #2\autobiography of a future self_lane: 8 - 8 (0)

What gives my life meaning is making others happy and helping people in need.
Autobiography Data Set #2\autobiography of a future
self_michelle_8606_247517: 2 - 2 (0)

I abandoned my life as an accountant and chose a much simpler and minimalistic approach to my career and overall way of life
Autobiography Data Set #2\autobiography of a future
self_mike_12176_245272: 9 - 9 (0)

But I think I just did not know that there’s much more to life than just owning a bunch of things.
Autobiography Data Set #2\autobiography of a future
self_mike_12176_245272: 15 - 15 (0)

I found that the people who gave up all the unnecessary things in their lives found themselves to be more content without all their possessions.
Autobiography Data Set #2\autobiography of a future
self_mike_12176_245272: 16 - 16 (0)

I made the right choice in my life to leave my old habits behind and devote my life to learning, traveling, and loving other people and creatures. I can say that I’ve found more contentment and fulfillment in this new life compared to my old life pursuing happiness through wealth
Autobiography Data Set #2\autobiography of a future
self_mike_12176_245272: 19 - 19 (0)

	I just think it's all a matter of your own perspective on what gives you happiness, as opposed to what other people think will make you happy. Autobiography Data Set #2\autobiography of a future self_mike_12176_245272: 21 - 21 (0)
	You can choose to be happy or you can choose to let others help you to be happy. Either way, the choice is yours. Autobiography Data Set #2\autobiography of a future_tamaya_8858_245285: 14 - 14 (0)
Epistemology	We know what we know because we experience it. Hands on learning is the best way of learning and the only way for us to learn about ourselves and the world around us. Autobiography Data Set #2\autobiography of a future self_david_10972_245257: 3 - 3 (0)
	We know what is real by interacting with the things around us. We gain knowledge through history. Autobiography Data Set #2\autobiography of a future self_david_10972_245257: 3 - 3 (0)
	The only valid knowledge there is that of learning about the past of humanity and using the information we learn and using it towards the future Autobiography Data Set #2\autobiography of a future self_david_10972_245257: 3 - 3 (0)

Results from the Values Analysis

The values analysis of the "autobiography of a future self" indicated a shift in the concerns students expressed and an expanded articulation of values. When given the opportunity to imagine a future life, considering the exposure to the course materials, readings, and conversations, students chose to talk less about damage to nature, disconnection from nature, and the lack of awareness people have regarding the human environmental impact. Rather, they chose to talk more about protecting nature and the civic responsibility we have to care for others, the planet, and to active engagement to make the world safer, fairer, and more sustainable. The tables below show the comparison of frequency of values expressed between the data sets (Table 14) and excerpts from coded segments indicating value statements (Table 15).

Table 15. Comparison of Frequency of Values Between Assignments

Code System	Autoethnography Data Set #1	Autobiography Data Set #2
Restoration of self	5	1
Protection of nature	1	3
Lack of awareness	18	1
Active responsibility for nature	20	2
Disconnection from nature	32	1
Damage to nature	24	
Benefits of nature	4	1
Impacts on people	19	4
Civic responsibility		12

Table 16. Values Analysis of the "Autobiography of a Future Self"

Code	Coded segments
restoration of self	chose a much simpler and minimalistic approach to my career and overall way of life Autobiography Data Set #2\autobiography of a future self_mike_12176_245272: 9 - 9 (0)
protection of nature	I think about where I throw my trash away and how I am being wasteful. Autobiography Data Set #2\autobiography of a future self_anne_11883_245251: 8 - 8 (0)
	I hope the realization, the overall epiphany, is that we have to decrease our impact on the earth. Autobiography Data Set #2\autobiography of a future self_lane: 16 - 16 (0)
	I found that the people who gave up all the unnecessary things in their lives found themselves to be more content without all their possessions. Autobiography Data Set #2\autobiography of a future self_mike_12176_245272: 16 - 16 (0)
lack of awareness	All people seem to care about is money and stuff that you can buy with money because it makes them happy. Autobiography Data Set #2\autobiography of a future self_mike_12176_245272: 14 - 14 (0)
active responsibility for nature	I will pass this way of life to my children and grandchildren and remind them that Earth is our only place to live; it is our duty to take care of this planet. Autobiography Data Set #2\autobiography of a future self_anne_11883_245251: 8 - 8 (0)
	He taught me how to do farming, how to climb trees and how to admire nature Autobiography Data Set #2\autobiography of a future self_kevin_9207_245216: 5 - 5 (0)

disconnection from nature	Society began to use more resources, and so we became more wasteful, less-careful, and less intellectual. Autobiography Data Set #2\autobiography of a future self_lane: 10 - 10 (0)
benefits of nature	I spent a lot of my childhood playing outside and interacting with plants and animals Autobiography Data Set #2\autobiography of a future self_kevin_9207_245216: 5 - 5 (0)
impacts on people	Society began to use more resources, and so we became more wasteful, less-careful, and less intellectual. Autobiography Data Set #2\autobiography of a future self_lane: 10 - 10 (0)
	The people in world today don't know what it is to give back and help others. I hope to be my kid's role model and to help change the worlds perspective. Autobiography Data Set #2\autobiography of a future self_michelle_8606_247517: 7 - 7 (0)
	Everyone deserves clean water Autobiography Data Set #2\autobiography of a future self_sarah_11730_244549: 9 - 9 (0)
	I realized that my values of knowledge and equality worked perfectly with my profession. Autobiography Data Set #2\autobiography of a future self_savannah_11219_259727.docx: 4 - 4 (0)
civic responsibility	I always thought that the right thing was whatever would benefit the largest amount of people. Autobiography Data Set #2\autobiography of a future self_jane: 6 - 6 (0)
	doing the right thing did involve helping others Autobiography Data Set #2\autobiography of a future self_jane: 8 - 8 (0)
	All people should have access to healthcare and sanitary living quarters, so that is where I decided to put all my effort. Autobiography Data Set #2\autobiography of a future self_jane: 12 - 12 (0)
	I want to do something for the society and the environment. I can see myself helping homeless and trying to educate people on the environmental agenda such as pollution, global warming, and slaughter house problems. Autobiography Data Set #2\autobiography of a future self_kevin_9207_245216: 8 - 8 (0)
	The older generation is fixated on the news, while we are fixated on social media, and no one can shut up for a minute, be still, and just wait. Wait, listen, breathe in through the nose and out through the mouth. Give yourself and others around you so time to cool down. Autobiography Data Set #2\autobiography of a future self_lane: 12 - 12 (0)

pay attention to what going on, get back in touch with nature and avoid participating in things you don't want to be a part of (war, politics, etc.)
Autobiography Data Set #2\autobiography of a future self_lane: 13 - 13 (0)

Stop thinking about the materials you own such as your phone and your fast food become more engaged with elections, bills, and current events. Follow the money to find where the evil people really are. Realize that we are not so different from one another and that we are stronger together than we are divided.
Autobiography Data Set #2\autobiography of a future self_lane: 17 - 17 (0)

What they valued was how much an individual contributed to the tribe's well-being by caring and providing for each other. These people valued this type of currency the same way people see money today, but the only difference is that buying things today does not grow us closer together.
Autobiography Data Set #2\autobiography of a future
self_mike_12176_245272: 22 - 22 (0)

Be the person that changes another person's life
Autobiography Data Set #2\autobiography of a future self_renee: 9 - 9 (0)

our painting could inspire and help change lives
Autobiography Data Set #2\autobiography of a future
self_sarah_11730_244549: 15 - 15 (0)

I get to raise money for charity and women, knowing my contribution could help someone out there. That's all I ever wanted to do. To help, and to teach.
Autobiography Data Set #2\autobiography of a future
self_sarah_11730_244549: 17 - 17 (0)

when I moved in with my dad as a young teen he pressed the issue of wastefulness and just how important it is to use compost and recycling in a society with such a bad habit of throwing everything in a landfill.
Autobiography Data Set #2\autobiography of a future
self_savannah_11219_259727.docx: 3 - 3 (0)

The reduction of occurrences in the negative aspects of the human-environment relationship led to the need to sub-code the category of civic responsibility in an attempt to identify what values replaced lack of awareness, active responsibility for nature, disconnection

from nature, and damage to nature. I needed to explicate the values within what I viewed as a civic responsibility to act. The table below shows the sub-codes of civic responsibility.

Table 17. Sub-codes Within Civic Responsibility in the Autobiography

Code System	Autobiography Data Set #2
Civic responsibility	12
Universal healthcare & wellbeing	3
Active resistance to harmful practices & policies	5
Service to others	5
Reduction in materialism & consumption	1
Connection with nature	1

Table 18. Sub-coded Segments From the Autobiography Assignment

Code	Coded segments
civic responsibility\universal health care & wellbeing	I always thought that the right thing was whatever would benefit the largest amount of people. Autobiography Data Set #2\autobiography of a future self_jane: 6 - 6 (0)
	All people should have access to healthcare and sanitary living quarters, so that is where I decided to put all my effort. Autobiography Data Set #2\autobiography of a future self_jane: 12 - 12 (0)
	What they valued was how much an individual contributed to the tribe's well-being by caring and providing for each other. These people valued this type of currency the same way people see money today, but the only difference is that buying things today does not grow us closer together. Autobiography Data Set #2\autobiography of a future self_mike_12176_245272: 22 - 22 (0)
civic responsibility\active resistance to harmful practices & policies	I want to do something for the society and the environment. I can see myself helping homeless and trying to educate people on the environmental agenda such as pollution, global warming, and slaughter house problems. Autobiography Data Set #2\autobiography of a future self_kevin_9207_245216: 8 - 8 (0)
	The older generation is fixated on the news, while we are fixated on social media, and no one can shut up for a minute, be still, and just wait. Wait, listen, breathe in through the nose and out through the mouth. Give yourself and others around you so time to cool down. Autobiography Data Set #2\autobiography of a future self_lane: 12 - 12 (0)

	pay attention to what going on, get back in touch with nature and avoid participating in things you don't want to be a part of (war, politics, etc.) Autobiography Data Set #2\autobiography of a future self_lane: 13 - 13 (0)
	Stop thinking about the materials you own such as your phone and your fast food become more engaged with elections, bills, and current events. Follow the money to find where the evil people really are. Realize that we are not so different from one another and that we are stronger together than we are divided. Autobiography Data Set #2\autobiography of a future self_lane: 17 - 17 (0)
	when I moved in with my dad as a young teen he pressed the issue of wastefulness and just how important it is to use compost and recycling in a society with such a bad habit of throwing everything in a landfill. Autobiography Data Set #2\autobiography of a future self_savannah_11219_259727.docx: 3 - 3 (0)
civic responsibility\service to others	doing the right thing did involve helping others Autobiography Data Set #2\autobiography of a future self_jane: 8 - 8 (0)
	What they valued was how much an individual contributed to the tribe's well-being by caring and providing for each other. These people valued this type of currency the same way people see money today, but the only difference is that buying things today does not grow us closer together. Autobiography Data Set #2\autobiography of a future self_mike_12176_245272: 22 - 22 (0)
	Be the person that changes another person's life Autobiography Data Set #2\autobiography of a future self_renee: 9 - 9 (0)
	our painting could inspire and help change lives Autobiography Data Set #2\autobiography of a future self_sarah_11730_244549: 15 - 15 (0)
	I get to raise money for charity and women, knowing my contribution could help someone out there. That's all I ever wanted to do. To help, and to teach. Autobiography Data Set #2\autobiography of a future self_sarah_11730_244549: 17 - 17 (0)

civic responsibility\reduction in materialism & consumption	Stop thinking about the materials you own such as your phone and your fast food become more engaged with elections, bills, and current events. Follow the money to find where the evil people really are. Realize that we are not so different from one another and that we are stronger together than we are divided. Autobiography Data Set #2\autobiography of a future self_lane: 17 - 17 (0)
civic responsibility\connect with nature	pay attention to what going on, get back in touch with nature and avoid participating in things you don't want to be a part of (war, politics, etc.) Autobiography Data Set #2\autobiography of a future self_lane: 13 - 13 (0)

While some students did not explicitly include the sub-codes in their "autobiography of a future self", class discussions included a general consensus that if humanity is to succeed, the five areas of universal health care and wellbeing, active resistance to harmful practices and policies, service to others, reduction in materialism and consumption, and connecting with nature are essential and must form the basis of society.

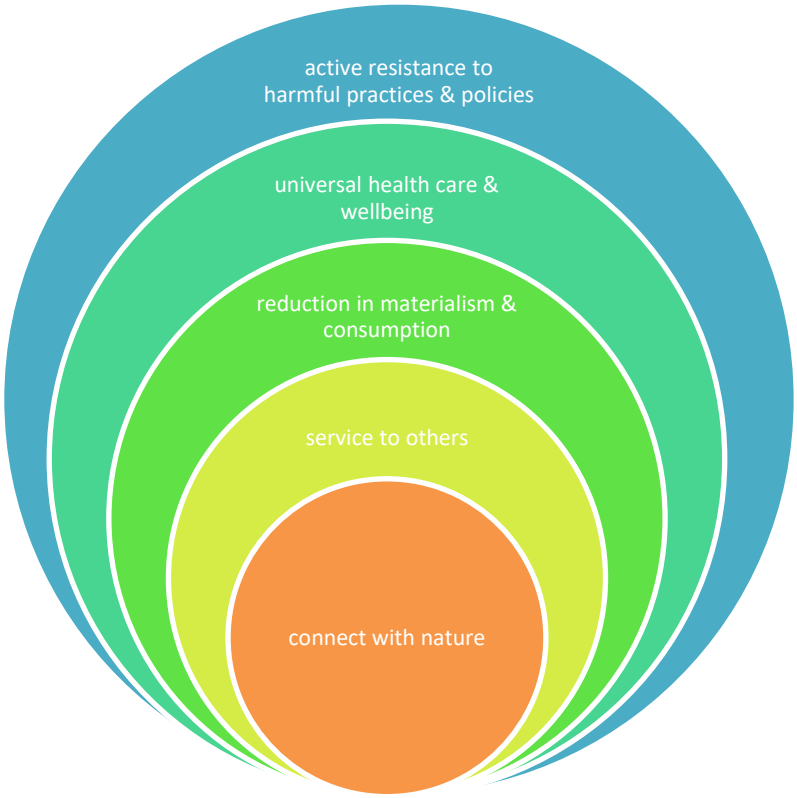


Figure 16. Expression of values categorized as civic responsibility in the "autobiography of a future self" assignment

Results from the Significance Analysis

Significance analysis of the "autobiography of a future self" narrative data indicated a reduction of occurrences. One reason is that students overwhelmingly opted for a more positive tone in imagining how a future self could manifest. This is not only expected, but also desired. The goal of the course was to inform, engage, and empower, not plunge students into a view of the world as hopeless, fearful, and corrupt. While we certainly had our moments of existential angst based on the readings, videos, and personal narratives (as evident in the field notes), students emerged with a strong sense of civic responsibility and determination.

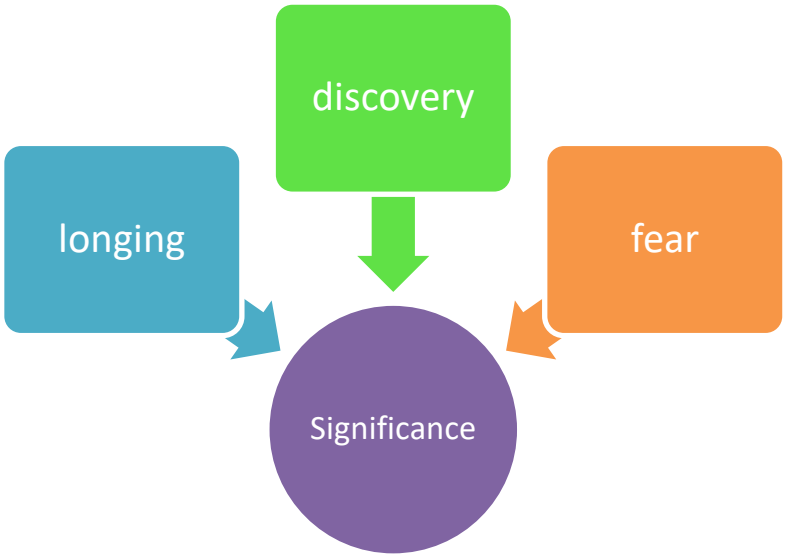


Figure 17. Categories of significance found in the "autobiography of a future self" assignment

Table 19. Significance Indicators in the Autoethnography and Autobiography

Code System	Autoethnography Data Set #1	Autobiography Data Set #2
Longing	10	1
Wonder	11	
Discovery	10	1
Fear	11	1
Powerlessness	3	
Imagination	2	

Table 20. Significance Analysis of the "Autobiography of a Future Self"

Code	Coded segments
longing	I'm almost never outside yet, being outside still reminds me of the times I would run through the woods in my bare feet. Autobiography Data Set #2\autobiography of a future self_lane: 14 - 14 (0)
discovery	30 years from now, I hope that my life will reflect who I truly was when I was the child playing amongst the pine trees, exploring and learning from my own existence. Autobiography Data Set #2\autobiography of a future self_lane: 15 - 15 (0)
fear	Often times after class, I would feel hopeless and useless and that I was too insignificant to make a change in the world. Autobiography Data Set #2\autobiography of a future self_savannah_11219_259727.docx: 4 - 4 (0)

Results from Field Notes and Observations

Field notes began in earnest at week six after gaining IRB approval. Following the work of Gibson (2013), I included descriptions of readings and activities for the week, reflections, and emerging questions and analysis. During class time, I recorded short impressions and student comments in a 'field notebook.' Directly after class, I expanded thoughts and observations in, what Delamont (in Walford, 2009) refers to as "out-of-the-field notes," paying special interest to noticeable expressions of reflection, strong opinions and questions posed, as well as emotions and patterns of behavior that offered insight into the role of social norms and how these changed over time. The field notebook also provided reference for coding as well as identifying and clarifying moments in class that may have contributed to the construction of an integrative worldview.

This section will detail several field note entries. Reflections before the construction of the autoethnography show a pattern of students wrestling with issues raised in the readings and documentary series, as well as in class discussions. Reflections after the autoethnography show a consistent development of critical thinking about social, political, economic, and environmental issues.

Reflections after the construction of the "autobiography of a future self" show a clear shift from disorientation with engagement with Uhl's (2013) message of awareness, community, and courage as planetary citizens to planning a course of action and expressing new perspectives. The figure below shows the phases of transformative learning as developed by Mezirow (2012).

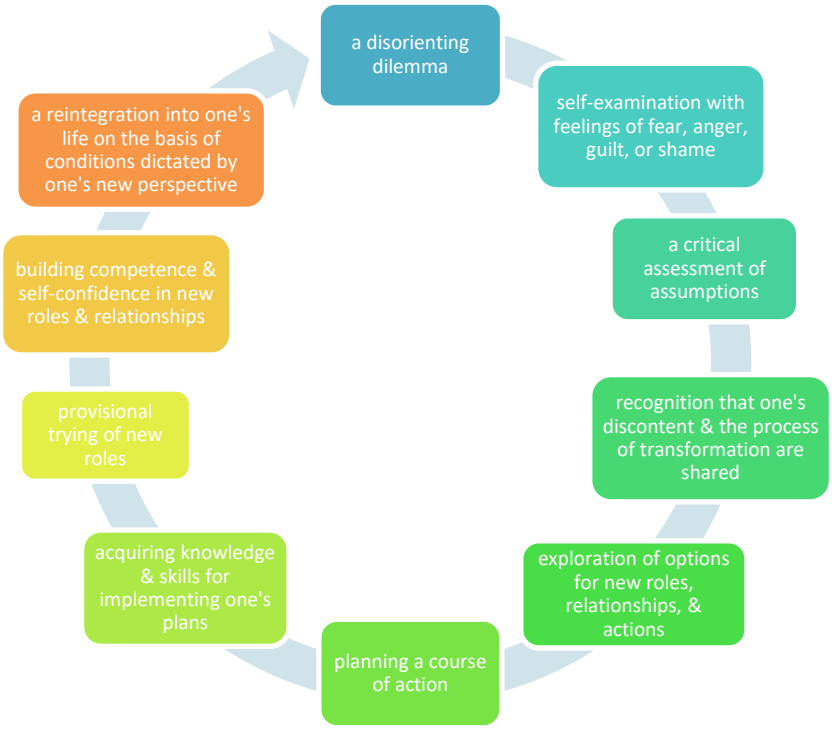


Figure 18. Transformations often follow these phases of meaning (Mezirow, 2012)

Phases of the course coincided fairly well with Mezirow's (2012) stages of transformative learning. This is not to say every student experienced these stages or was willing to share how they were feeling or what they were thinking, but the class consensus was that the human-environment relationship is under stress, environmental narratives offer understanding of these relationships in new and unexpected ways, and we have a responsibility to do something about it. I could identify when students were experiencing a particular stage as our discussions shifted, adopted distinctly different tones, and their in-class writing and work reflected different thinking. For example, although I was not collecting research, the beginning of the course and introduction to the material could be interpreted as a disorienting dilemma for some students as they had never considered the human-environment relationship at the level both Uhl (2013) and other authors/narrators demanded. Students also expressed thoughts such as "This is not what I thought a writing class would be like" and "I've never read a book like this, it's really making me think"

in reference to Uhl's (2013) text. Renee said in class, "Honestly, when I first came into this class, I didn't believe in climate change. Now, I can see that it's true. I didn't think it was being talked about much but I can see that it's true." Jane commented that "I notice so much more now, I'm aware of everything" and was affirmed by other students. Students also noted that this was not necessarily a good thing as heightened awareness made them unable to look at some things in the same way as before which led to stage two, self-examination with feelings of fear, guilt, anger, or shame. In the early weeks of class, students frequently expressed instances of fear, anger, and guilt. For example, Lucy said,

> the resources on Earth that allow for us, and everything around us to function are extremely limited- and much of what's causing the issue of depleting these resources is us. I didn't even realize the extreme need and call to action of that something needs to be done, because I was honestly just not aware of the extreme decline of certain animals and resources around me.

Title: *The personal is political*
Date: *Week 6*
Description of readings & activities: *We discussed "Cultivating Community" in Uhl's book, Developing Ecological Consciousness the End of Separation and how the personal is political. Students offered examples of how the personal is political from the media and controversial issues currently being debated.*
Reflections: *Today there was less hesitation to commit to actually enjoying the book we are reading and for some students to admit that they were experiencing change. For example, Jane said, "I notice so much more now. I'm aware of everything" and then Renee said, "Honestly, when I first came into this class, I didn't believe in climate change. Now, I can see that it's true. I didn't think it was being talked about much but I can see that it's true." Rather than say, "Yes, that's exactly what I want to see happen," I tried very hard to affirm student's experiences with the book thus far but not be overly enthusiastic to lead them to respond to what they perceived as my desired outcomes. I suspect this will become more difficult as we delve deeper into the book. I admit that I was slightly anxious about Uhl's book and how some students might react to its required reading. My main concern revolved around the science versus creationism origin stories and if students would be able to suspend judgement enough to absorb what Uhl is*

communicating about interconnectedness and constructing a new, more sustainable story that governs our lives. His 'new story' approach is inclusive of all ontological positions.
Emerging questions & analysis: *I made the conscious decision to begin the course with the assumption that anthropogenic climate change is scientifically validated and made no attempt to entertain climate change deniers or the rhetoric in which deniers engage. After hearing Renee's comment, I wondered how much the authority of the book influenced her comment and what other factors led her to be so open to something she had once been relatively unaware? What role did the social experience play in a classroom of students who were somewhat aware of anthropogenic climate change?*

Figure 19. Week 6 Field Notes: The Personal is Political

Title: *Coming to awareness*
Date: *Week 7*
Description of classroom activities: *Reading chapter 2 "Coming to Awareness" in Uhl's (2013) book with a particular focus on seeing things with "new eyes of relatedness" (p. 30).*
Reflections: *Uhl describes the earth as a "nurturing womb for life" (p.29) causing some students to feel like the language is a little too "touchy-feely". Others took to this notion of the earth as a mother as a warm image, one that inspires us to respect and love her. Uhl asks students what their experience of earth is and most resisted descriptions that implied intimacy. Rather, they talked about the sense of freedom one feels in nature, how cares tend to recede, and how there aren't enough opportunities in day-to-day life to experience the earth as our mother. This led to us discussing the concept of "eyes of relatedness" that follows from the earth as mother of all. Students were asked to list problems they see in the world and how they could benefit from viewing them with "eyes of relatedness". Student responses were intense in terms of their passion for social issues such as discrimination against the LGBTQ community, school shootings, and corporations knowingly polluting streams and rivers. Deconstructing these issues and then making connections with the various stakeholder groups led students to experience "new eyes of relatedness". It was insightful for everyone and we often found moments of pause where there was a general sense of group processing of new facts, new ideas, new views of what contributes to social problems. Rather than focus on solutions to issues students raised, we focused on better understanding root causes.*
Emerging questions & analysis: *This week's readings and discussions shed light on how students view relationships and how passionate they are about social issues that affect their peer groups. However, there was a tendency to use Uhl's concept of "eyes of relatedness" only within what they knew or had experienced. Relational thinking seems to be a promising pathway to better understanding of the various stakeholders in the issues in which they are interested.*

Figure 20. Week 7 Field Notes: Coming to Awareness

Title: *A new story*
Date: *Week 13*
Description of classroom activities: *Reading Chapter 8 "Birthing a New Story" in Uhl's (2013) book. Discussed what guiding principles are and can be in light of this "new story" idea. Focused on Uhl's concept "eyes of interdependence" (p. 206) in connection with an integrative worldview. Discussed examples of ecological thinking based on information from the Center for Ecoliteracy.*
Reflections: *Students were very receptive to seeing the "eyes of interdependence" as the basis of ecological thinking. Uhl asks students to see themselves with new eyes (p. 212) and this served well the focus of the autobiography of a future self assignment for which we are laying the groundwork. Students wanted to know my opinion on quantity versus quality (as a foundational piece to ecological thinking) and what I value as far as quality goes. I offered the example of having more time to spend outdoors in my garden rather than working longer hours for more money or opportunities as an example of quality over quantity. Many students agreed that as a culture we value things we can quantitatively measure over things we cannot such as friendship and happiness. Despite their agreement with Uhl and the principles of ecological thinking, the majority of students did express feelings that Uhl had unrealistic expectations for living lives based on interdependence. In their words, "it would take a lot of time to live like that".*
Asking students to get beyond the superficial notions of personal identity put a few students off, as it seemed they felt belittled or as if their identities were invalidated in some sense. I tried hard to ensure that they understood that those attributes (such as belonging to a sorority or gaming community) were no less important than other identity aspects but what Uhl is trying to get them to see is the larger connection between communities and their interconnectedness. Students in sororities and fraternities saw the connection between service to the community and personal identity as interconnected as service is a major aspect of these groups.
We moved from personal identity to discussing "community as life's foundation" (Uhl, p. 214. This seemed to clarify how important one's identity is to community connections. Part of understanding community is being able to identify feedback loops and how we know if things are working or not. I asked students to look back at the lists of social problems they made back in week 7 and what the feedback loops were telling us. For example, increased incidence of school shootings tell us the system isn't working. Some talked about the various community members that impact schools and everyone agreed that if we could all come together and overcome divisive viewpoints we could create safer communities for children. This led to the discussion of social capital (Uhl, 2013, p. 216) and how we do not value this type of wealth. A harsh critique of modern capitalism followed.
Emerging questions & analysis: *What role does student knowledge of how infrastructure communities work influence their worldview and civic engagement? This week's readings and discussions revealed a lack of understanding about how basic economics work and how misinformation plays a role in their perspective.*

Figure 21. Week 13 Field Notes: A New Story

Results from the Interviews Analysis

Eight students of the eighteen participants opted to interview in person after the course ended. I posed the following questions at the beginning of the interview giving the student a minute to consider the overall objective of the meeting. I then asked each question separately and took notes (with the students' permission) to capture the details. Each interview lasted approximately ten minutes.

Interview Questions

1. Between your first and last writing projects, did your worldview changed?

2. Did your thinking change during the semester?

3. Reflecting on our class, were there new concepts or ideas that changed how you view yourself in the world?

The interviews indicated a sense of empowerment, improved critical thinking skills, expanded worldview, a deeper appreciation for nature, and a focus on interdependence with all of life. Students spoke to me with confidence and a feeling that the course had made them think more deeply and in broader ways about the human-environment relationship as well as their relationship to other people. This translated into strong stances on guiding principles for society.

Results from the Integrative Worldview Framework Analysis

All five components of the Integrative Worldview Framework were present in the interviews. Not surprisingly, societal vision played a prominent role in students' expression of worldview as having experienced sixteen weeks in an environmental humanities course not only enriched their understanding of the scope and scale of environmental problems but gave them confidence to take a stance on what society must do in order to remedy some of these problems. A finding that did surprise me was the prevalence of the ontological position of interdependence or ecological consciousness (Uhl, 2013). Five of the eight students interviewed explicitly talked

about the nature of reality as being interdependent. Interdependence as discussed by students in interviews captures a range of relationships including global impacts of our actions and diverse approaches to understanding complex problems.

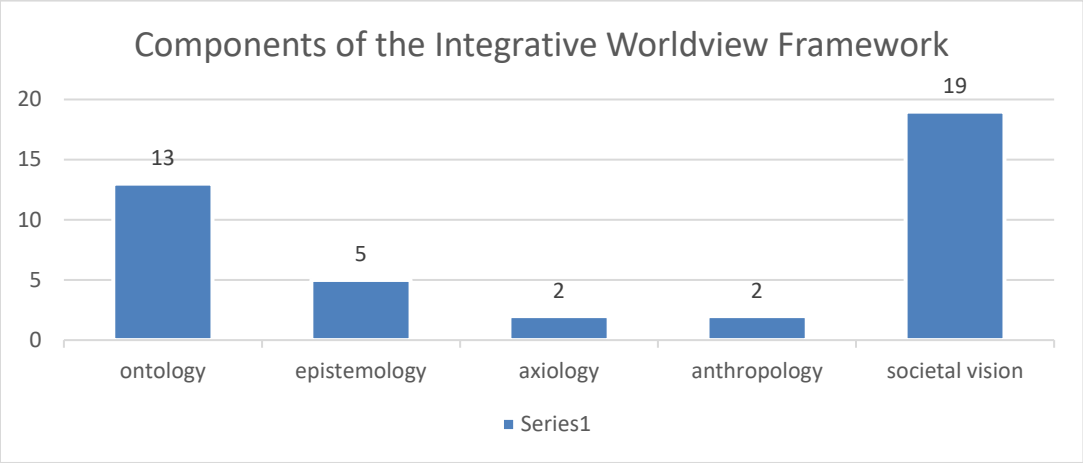


Figure 22. Components of the Integrative Worldview Framework present in the interviews

Results from the Interview Values Analysis

The values analysis fell almost exclusively within the civic responsibility category. I applied the sub-codes for civic responsibility as I had in the values analysis for the "autobiography of a future self" data set. Active resistance to harmful practices & policies occurred the most frequently in interviews. For example, Tamaya said, "I was pissed off that people don't pay attention to people with mental illness, the environment, we lack empathy, and if more people speak out about how it can get better the world would be a better place." Kevin offered this insight, "fixing the environment is not sufficient, but fixing ourselves, particularly our perceptions about Earth is the most important."

The second most prominent value that arose in the interviews was that of interdependence. Students viewed interdependence in a variety of ways. For example, Hope said, "I had never thought about how a global problem can affect me on such a small scale and how I am contributing to the problem" and Cameron admitted, "I never knew how simple things such

as recycling could affect lives around the world to improve living conditions globally." The figure below shows the values expressed in the interviews.

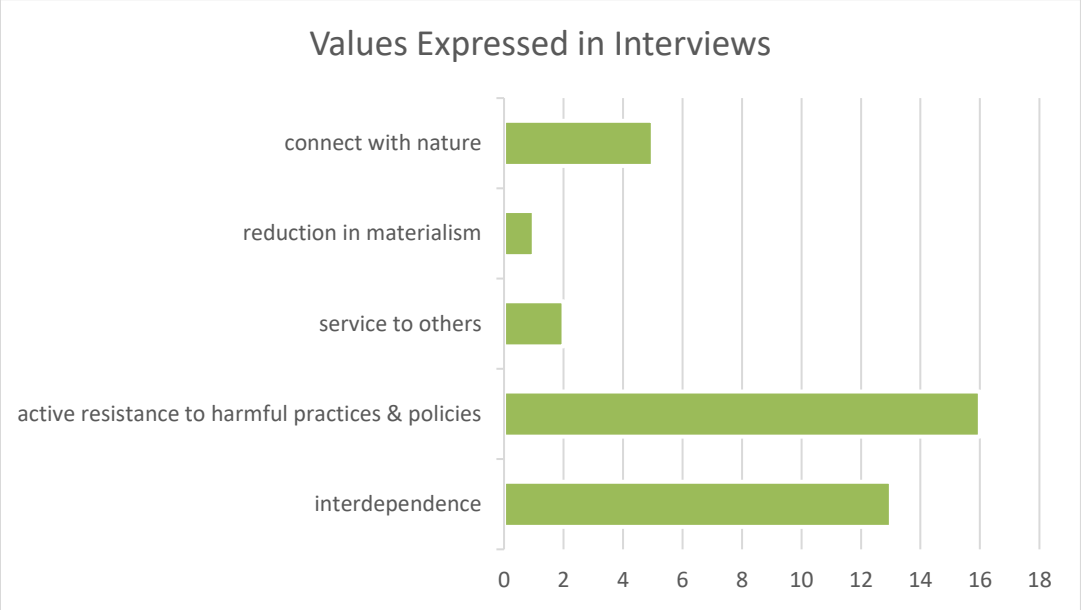


Figure 23. Values expressed in the interviews

The values expressed in the "autobiography of a future self" data set were reinforced in the interviews. Students felt strongly about the five components of civic responsibility and after the course, were adamant in the need to be actively resistant to harmful practices and policies such as corporate environmental pollution and government deregulation of such activities. The table below shows the occurrences of sub-codes of values in the autobiography data set and the interviews.

Table 21. Comparison of Frequency of Sub-Codes

Code System	**Autobiography Data Set#2**	**Interviews**
Civic responsibility	12	1
Interdependence		13
Universal healthcare & wellbeing	3	
Active resistance to harmful practices & policies	5	16
Service to others	5	2
Reduction in materialism & consumption	1	1
Connect with nature	1	5

Analysis of the narrative data provides a rich picture of what students perceived to be problematic, hopeful, and relational in terms of their own experiences and their hopes for the future. From the Integrative Worldview Framework, values, and significance analyses, four themes emerged: the value of open-mindedness, recognizing other ways of knowing, awakening to care and activism, and shifting worldviews. The following chapter delves into the themes and how they relate to the components of an integrative worldview including changes in ontology, epistemology, axiology, and anthropology.

Chapter 5: Stages of Worldview Development

Emergent Themes, Emerging Voices

The findings in this study indicate the emergence of four themes: the value of open-mindedness, recognizing other ways of knowing, awakening to care, and shifting worldviews. The following sections will discuss each theme extrapolated from the analysis and the implications for the development of these characteristics. Accompanying the overarching themes were student voices. I frame the findings and discussion in this way as it played a prominent role in my understanding of how and why students chose to articulate their views. Many educators engaged in transformative learning models have embraced the emergence of student voices because "transformative scholars assume that … an important purpose of knowledge construction is to help people improve society" and part of that knowledge construction is listening to students (Mertens, 1999, p. 1). Students may be voicing their ideas, observations, and experiences for the first time in a public setting and the motivations for doing so makes attending to the themes and voice an important part of the research.

Hamilton (2006, p. 1) asserts, "The ability to listen to the student voice is, I believe, the most significant enabling factor for the building of caring, empowering relationships in the development of a learning community" and I would add that it is a powerful enabling factor for the development of responsible civic engagement. Hamilton (2006) makes the claim for the value of listening to and heeding student voices for helping educators develop learning theories. An integral part of this is what Hamilton (2006, p. 1) identifies as "the context of the emerging contemporary world view and the related understandings of connectedness and contextualization" that are necessary for holistic learning. Her research affirms my own;

emergent student voices are ecological and in search of a learning community in which they can thrive, develop, and assert themselves in the service of something larger than themselves.

This is where careful curriculum planning and pedagogy help create a space for student voices to emerge, as well as a nonjudgmental, fluid environment where all opinions are welcome. The space must also be responsive to student need, interests, and learning goals. The emerging voices in my study indicated the need for a clear context to better understand social, political, economic, and environmental complex problems. This is nothing new, as most educators researching pedagogy and student learning know that context provides essential meaning structures in which to ground students if they are to gain understanding, and more importantly, engage with these complex problems.

What we often do not recognize, however, is that students also need a language to express ecological values. It may not be the case that most students are not aware of or worse, do not care about environmental problems; it may be that they lack the language to discuss, analyze, and communicate in ways that are less stereotypically "environmental." Michelle commented, "I have always loved nature but the class made me feel like I wasn't alone and that it was cool to express my feelings for what we're doing to the planet." This sentiment was echoed by several students and the shared community of not self-identifying as "environmentalists" seemed to be important. Several weeks into the course, students would preface statements with disclaimers like "I'm not a tree hugger but I care about deforestation" or with "I've never been an environmentalist but everyone needs clean water." Underlying concern for the environment was there but students felt the need, at least in the first half of the semester, to be clear that they were part of a mainstream identity category rather than what they perceived to be radical.

Alongside the need for language and space to articulate ecological values, emergent themes indicated students understood by the end of the course that environmental problems are complex and interdisciplinary, we must approach these problems integratively, and that responsible citizenship involves planetary citizenship.

Value of open-mindedness. Narratives are powerful. Human experience is a string of narratives woven together over time and space, increasingly important in both construction and understanding of our experience. With the omnipresence of information, students expressed being overwhelmed by the seemingly disparate onslaught of news blips, the dissemination of information through social media, and sensationalistic claims. Students discussed on a regular basis the challenge of navigating their way through information and becoming information literate. Throughout our course, it became increasingly clear that part of being information literate was being open-minded.

In the narrative assignments students did not explicitly articulate being open-minded as a value but it was clear that it was a practice they did in fact value. I interpreted the sub-codes in the category of civic responsibility as values. Figure 24 shows this relationship.

Figure 24. Values of civic responsibility

In the interviews and in our class discussions, however, a clear theme emerged that not only were their minds opened during the course, but that everyone needs to engage in this practice as a value that will enhance our understanding of social problems and create more empathy. In the interviews, Lane said "Our discussions really opened my eyes about things I don't think about a lot like people in other countries that are suffering from climate change" and Tamaya said, "I became more aware of how issues affect different ethnicities, having diversity in the classroom really opened my eyes." A crucial piece to the development of these viewpoints was the experience of reading and listening to others' narratives of personal experience within the human-environment relationship. In a technology-based world where millennial students are now digital natives, being open-minded seems a more important value than ever. They described daily life as a barrage of perspectives, opinions, and claims designed to get their attention. Parsing complex problems together in class and then taking time to read and listen to various

narratives affirmed students' beliefs that being open-minded not only meant suspending judgment of one's own beliefs but to be exposed to a variety of others' experiences.

Admittedly, students claimed that very few took time to read and listen to various narratives but that it encourages seeing other perspectives. Perspective-taking allows us to better understand complex problems. It also aids in the development of an ecological worldview. Students discussed this practice as a value that we should all hold. Some students claimed this ought to include the perspective of non-human animals and the earth itself. Listening to the earth became a common phrase in class discussions and I framed this as a process where we engage feedback loops that tell us how we might interpret those perspectives. Uhl's 2013 chapter, "Listening—Gauging the Health of the Earth" reinforced the interconnectivity of all actions and processes on earth and he urges students to listen "attentively for signs of well-being, as well as danger" (p. 90). An important part of our course for me was to engage in the proactive and sustainable actions taking place in the world. Devolving into narratives of destruction and doom and focusing on the never-ending examples of social, political, economic, and environmental complex problems does little to empower and inspire students. Uhl's inclusion of well-being as part of our narrative exploration proved to be an important aspect of our discussions and contributed significantly to the emphasis on empowerment and civic responsibility.

An important aspect of being open-minded is to suspend judgment on others' ontological positions. Jurin and Hutchinson (2005) discuss in their thematic findings where students "could agree to disagree without having to diminish an opposing viewpoint" (p. 495). This was apparent in the classroom as some students viewed ecological worldview from a firm ontological position of faith and duty while others came to the realization through a position removed from theological concern. Lucy claimed that her faith in Christianity guided her to be more

compassionate and caring of the world while Mike felt "The closed minded morality of Christianity in America has brought about problems that should not be present in the 21st century." The spectrum of ontological positions could have led to an atmosphere of conflict and tension yet did not. Students were able to put their differences aside while allowing the human-environment relationship to take central stage. It is difficult to identify why this was case as it could be attributed to a variety of factors including individual personalities, the close-knit discourse community we had developed at this point in the semester, or that students were united in their engagement with the socioenvironmental issues at hand and that concern transcended the need to focus on ontological differences. Regardless of the reasons, students were able to put their differences aside and I consider this a major strength of the environmental humanities—bridging the gap between differences by uniting people and communities based on health and wellbeing, for individuals and the planet.

Still others were critical of what they perceived to be the narrow-minded nature of human society and that we have yet to open our collective eyes and minds to the possibilities of what could be. Students' vision for society reflected this and began to be included as part of worldview as the course developed. Tina said, "If we want change in the world we must first look within. We can be the change we need if we work together" and this sentiment was echoed repeatedly. Hope envisioned a society where "people realize that the art makers, creativity thinkers, imagination builders, and storytellers are vitally important to connect us, grow us, and sustain us as human beings." Mike had this to say:

> In "Developing Ecological Consciousness" by Christopher Uhl, I found this Thomas Berry quote which resonates with me by how truly one we are with earth and every aspect within it. This oneness is difficult for many to comprehend, as most would view

> themselves and their beliefs as completely separate from everyone else's. This false individual journey takes away from the truth of the collective journey through this universe that we all share on this planet. The guidance that people desire does not need to be found by a separate institution or even a deity. Having an open mind toward peers, community, morality, and earth will ultimately guide a person to many objective truths as well as a rich and fulfilling life that enables the individual to love all forms of life on our planet.

The Thomas Berry (1999) quote to which Mike refers emphasizes our "capacity for relatedness" (Uhl, 2013, p. 75). Berry (1999) states:

> In reality there is a single integral community of the Earth that includes all its component members whether human or other than human. In this community every being has its own role to fulfill, its own dignity, its inner spontaneity…Every being enters into communion with other beings. This capacity for relatedness, for presence to other beings, for spontaneity in action, is a capacity possessed by every mode of being throughout the entire universe.

Students responded to this as a critique of contemporary society. This corresponds with the mission of the environmental humanities. Rose et al. (2012) state that the environmental humanities is a "Response to the narrow conceptualization of human agency, social and cultural formation, social change and the entangled relations between human and nonhuman worlds" (p. 2).

Recognizing other ways of knowing. A significant part of our course revolved around epistemology. Students inherently recognized that "We have long lived in a culture that has heavily favored a rational, depersonalized objectivity and a reductionistic approach to knowing"

(Shaw-Jones, 1992, p. 154). Uhl's (2013) approach to knowledge and thinking about how we know what we know was a challenge for some students but welcomed by nearly all. Uhl (2013) focused on listening to one's self and those around us, but also to planetary signals, the earth's narrative, as a way of knowing. He includes extinction narratives and other ways of knowing but also poses experiential ways of knowing such as seeing microscopic life in seawater and feeling a oneness with life (Uhl, 2013). Utilizing various forms of data in the course also introduced students to diverse ways of knowing that transcends their own experiences, culture, and societal norms. For example, the video series from The YEARS Project, "a global storytelling and education effort to inform, empower, and unite the world in the face of climate change" (theyearsproject.com), offers personal narratives from individuals and communities to share knowledge and knowledge practices that affect real lives. An episode with *The New York Times* columnist, Thomas Friedman (2014), focusing on the African Sahel and its migrant crisis connects a radically changing climate and impacts on human communities. When students listened to personal narratives from people living in the countries of the African Sahel and how they were forced to leave their homes due to unpredictable weather, droughts, and floods, they engaged in perspective-taking that allowed for other ways of knowing. Engaging with specific examples of how people must leave or die in these areas impacted by climate change affected students in ways that scientific reports alone would not have been and students explicitly stated such. Hearing, seeing, even feeling with these people in their communities through video offered students ways of knowing that college aged people often do not have the opportunity to experience.

Students were introduced to environmental art as another way of knowing. For the majority of students, art was far removed from epistemological notions and was viewed as

nothing more than self-expression. Viewing environmental art such as the work of German artist, Nils-Udo, offered students unique insight into the human-environment relationship. Rather than simply seeing his enormous nest of twigs with a human figure lying inside as just a playful representation of nature, most interpreted the piece to be a statement on the earth as our life support system, our nest, and that his artwork was a reflection on how we take that for granted. Regardless of the artist's intentions, students were free to interpret its meaning making potential. Engaging with environmental art expanded their epistemological notions and offered the insight that this other way of knowing can improve our relationship with the natural world. Environmental art is often geared toward cultural change and is a reflection of a relationship that needs to be healed. It can inform us of environmental problems by interpreting nature and its processes.

Engaging with personal narratives is an evolving aspect of epistemology and includes recognizing alternative ways of thinking about the human-environment relationship. Jurin and Hutchinson (2005) also recognized this with their students when they began to consider gray zones where logical and differing perspectives were noted (p. 495). The environmental humanities invites alternative ways of thinking and knowing as it challenges the narrow conceptualization of knowledge and knowledge practices. A key piece to this challenge is critiquing existing power structures, practices, laws, and decisions. In the example from The YEARS Project, students were quick to question how and why people in the African Sahel were so disproportionately affected, why they were not being helped, why Americans didn't know more about their situation, and what the contributing factors to their situation looked like. More importantly, they recognized that critique is not enough. Classroom consensus held that action and in some cases, resistance must accompany critique. While this was consensus, there was not

always agreement on what action ought to look like. For example, some students felt strongly that Americans should use less fossil fuels as they had learned that this is a major contributor to carbon emissions while others disagreed because most communities in the U.S. do not have access to viable alternatives such as affordable electric vehicles with adequate recharging stations or effective public transportation. Still others argued that because we do not have adequate alternatives to fossil fuels in most American communities does not mean people are powerless. They suggested that we should elect officials who support a transition toward sustainable fuels and energy. This is only one example from the course but the process of critical thinking together in class, after engaging with narratives of knowing from other people in their own communities, allowed students to participate in valuable perspective-taking. Schlitz et al. (2010) states, "Through a process of 'thinking together' collectively, group participants can examine their preconceptions, stereotypes, and prejudices, as well as a more general movement of thought" (p. 29) and this was evident in this course.

In this study, the environmental humanities offered a powerful context for thinking together through examples that showed the value of being open-minded and introduced students to other ways of knowing. Uhl (2013) provided the foundation for inquiry and students readily engaged in thinking through the environment by "re-thinking, re-imagining or re-storying" (Hutchings, 2014, p. 214) with their "autobiography of a future self" narratives. Unsettling dominant narratives through critique seemed a natural evolution for students as they developed a strong sense of what the "old story" looked like (Uhl, 2013) and viewed evidence from personal, community, and planetary narratives. Bridge-building between disparate narratives proved a difficult task and often caused disagreement amongst classmates, anger at established power, and even disappointment and despair. Understanding dominant narratives is one thing for college

students; bridge-building between disparate narratives requires more experience and time. What students were able to achieve was to hold that tension between disparate narratives and to learn strategies for better understanding the barriers to change that exist as well as the dominant narratives that sculpt our culture and ideology for better or worse.

Awakening to care and activism. An educator's job is to awaken a love of learning and implicit in this pursuit is to encourage students to love what we love and to care about the things about which we care. This is powerfully true in the environmental humanities as it is a discipline born of passion for the human-environment relationship and the wondrous biodiverse life on our planet. It is the product of a deep awakening itself; one where traditional approaches to knowing, knowledge practices, and lines of inquiry are questioned, challenged, and explored. An unexpected theme that arose in this course was an awakening to care for the environment and the planet's inhabitants in all their forms. This was not universally viewed from a stance of creation care. Four of eighteen students expressed a faith-based obligation to care for the environment and even so, did not explicitly connect the core beliefs of creation care such as preventing activities that are harmful such as water pollution or species extinction as God's will. It was expressed in terms of being a human societal obligation.

While my own passion for ecological consciousness surely encouraged students, I found that rather than impart passion and care for the environment, I was helping to uncover it. Students grew more knowledgeable and informed but awakened to our responsibility for caring for the earth. They did not have to be convinced that this was necessary, only given the opportunity to explore, understand, and articulate their willingness to be planetary citizens.

An aspect of awakening to care was that students began to focus not on objects in the environment, but on relationships (Shaw-Jones, 1992). Too often well-intentioned experts

expose students to environmental issues as issues of science or technology, as objective *things* to be solved. This plays into the powerful technology narrative that we have only yet to discover the answers that we can produce our way out of environmental catastrophes. In part, this may be true but overall, we must approach environmental problems as the problems they are, those with a social, economic, political, and economic basis, very human problems. The relationship focus improved the salience of environmental issues significantly as well as critical reflection.

At the beginning of the course, although research did not begin until after week 5, students expressed some concern about not knowing much about the environment or science or even having much to contribute in class discussions on this front. Near the end of the course, students seemed to write themselves into agency after having constructed an environmental autoethnography, an exploratory environmental narrative, and an "autobiography of a future self". Although they were offered the chance to construct a life they were yet to live, they imagined future selves that were empowered, active change-makers. Conversations took on a distinctly activist tone, one where we were complicit in the shortcomings and failings for not only the natural environment but also the human environment. People are suffering because of anthropogenic climate change, environmental injustice, and willful complacency in deference to power structures that continue to harm people and planet.

My experience with students in this study and in classes over the last several years tells me that we are not looking closely enough at the relationship between care and activism and that students need the tools to articulate that they care and to demonstrate it in how they live their lives. A particular kind of integrity comes from having those tools of articulation and demonstration, especially as a young adult where too few avenues of power exist for them to exercise these skills. With that comes the possibility to create a meaningful life of active and

civic participation and perhaps most importantly, a life underpinned by ecological consciousness as part of an integrative worldview.

Shifting worldviews. Themes of the value of open-mindedness, recognizing other ways of knowing, and awakening to care and activism set the contextual stage for shifting worldviews. The increased expression of axiological and anthropological components from the autoethnography assignment to the "autobiography of a future self" represent this shift in worldview. The cumulative effect of the course content and discussions impacted expression of worldview components. The increased expression of axiological and anthropological components correlates with the increased expression of values related to civic responsibility. While these shifts in worldview could be short-term, it led students to think more integratively about meaning and purpose on both an individual and societal level as reflected in their stances on civic engagement and responsibility. I attribute this to the immersion in narrative and other ways of knowing as participants in an environmental humanities discourse community.

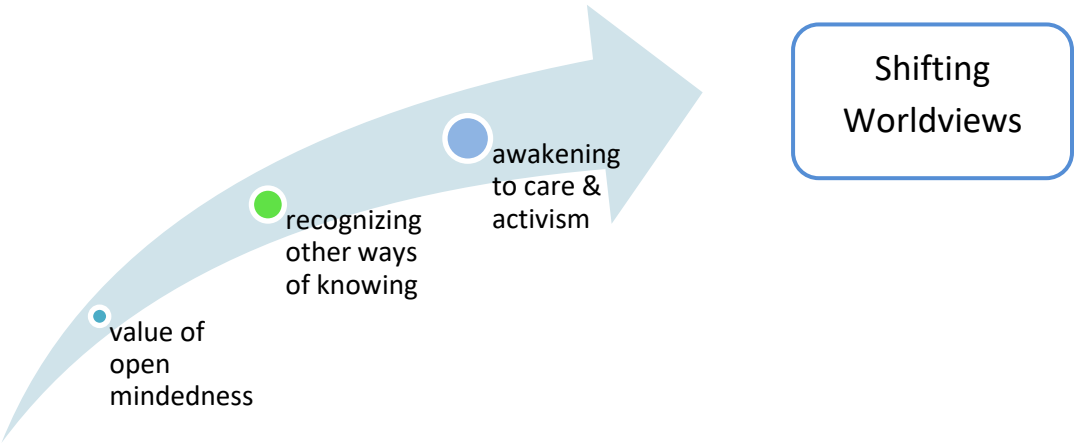


Figure 25. Emerging themes leading to shifting worldviews

Schlitz et al. (2010) acknowledge that,

> When worldview shifts from a primarily self-centered mode to one in which the self is experienced as an integral part of a larger whole, people report becoming more

> compassionate and service-oriented, and inspired to act as agents for positive change in their immediate communities and beyond. (p. 22)

From the beginning of the study to the end and afterward as discussed in the interviews, I witnessed a shift from egocentric thinking to a more integrative way of looking at the world but not just in reference to an ecological consciousness. Students' sphere of concern and compassion extended to multiple layers of human health and wellbeing, coded as anthropological and axiological views. Koltko-Rivera (2004) claim that an encompassing concept of worldview includes perceptions about the "underlying nature of reality, 'proper' social relations or guidelines for living, or the existence or non-existence of important entities" (p. 36) and student narrative from the "autobiography of a future self" included more of these aspects than the first set of narrative data.

There seems to be an implicit ecological worldview that is awakened in an environmental humanities class. I use the term *awakened* to refer to a student's willingness to articulate a belief or value indicative of ecological worldview. Ecological worldview may be expressed in a variety of ways but it is inherently integrative and has as its base, what I view as Rose's (2012) 'connection as a mode of reason' where we enlarge our sphere of not only concern but of reason to include our connective relationships with other life on the planet. Students often referred to the interconnectedness of both our actions and our lack of action. For some students, connection and interconnection provided a framework for making sense of the world. For others, it awakened a spiritual connection, whether tethered to an organized theology or not.

For example, Lucy explicitly stated in class discussions and in her narrative constructions that, in her view, all life on earth is imbued with a God-given life force. She said in her interview, "Everything is so interconnected. I believe it is God's plan to make everything

dependent on everything else. We have been given the gift of stewardship for the earth" and that "I realized it was all right to care for the earth as much as I do and that it is part of God's plan for me." Others articulated the spiritual connection as something unrelated to a particular theology but rather as oneness with all of creation and as Mike stated, the "guidance that people desire does not need to be found by a separate institution or even a deity."

Schlitz et al. (2010) offer insight into the shifts in worldview I discovered in my study. While I did not use the development of a social consciousness framework as described by Schlitz et al. (2010) consciously in my pedagogy, in my methods, or data analysis, after reviewing the data, it became clear that there was a correlation in expanded social consciousness and the development of a more integrative worldview. They discuss worldview transformations in terms of the development of social consciousness and define it as "conscious awareness of being part of an interrelated community of others" and that when used this way "social consciousness refers to the level of explicit awareness a person has of being part of a larger whole" (Schlitz et al., 2010, p. 4). While I am not claiming that complete transformations in worldview occurred, I am acknowledging that shifts in worldview did, as indicated by a shift in values and the prominence of civic responsibility that included planetary wellbeing. The shift shows that students were not only awakening to themselves as part of a larger whole but as being historically and politically contextualized in a more wide-ranging system of social relations. Ammentorp (2007) states that, "Social consciousness develops with the understanding that the social system has a history and it changes, leading to a sense of situatedness in a social world and a sense of civic responsibility to the common good" (p. 39). This correlates with the mission of the environmental humanities; to "resituate the human" (Rose et al., 2012) to enact large scale social change that is ecologically, rather than anthropocentrically, grounded.

The levels of social consciousness include embedded, self-reflexive, engaged, collaborative, and resonant (Schlitz et al., 2010). The *embedded* level is where social consciousness is shaped without conscious awareness. Schlitz et al. (2010) refer to this as a "kind of presocial consciousness" (p. 22). As such, I did not explore this aspect of social consciousness as it was outside the scope of my study, outside the learning goals of the course, and not an area frequently probed in the environmental humanities.

The *self-reflexive* level is when we gain awareness of how the social world and our interactions with that world in its various manifestations shape our experiences. This area is pertinent to pursuing higher education in general where an explicit goal is to become a reflexive learner. Students grappled with this level in both narrative data and with classmates during discussion. For example, Renee said, "I never thought that much about my attitude toward climate change but I only listened to what my parents told me. I never took time to learn about it for myself." Others were adamant that their educational experiences had limited their thinking about interconnectedness or in viewing the universe in ways Uhl (2013) was asking them to do. In some cases, this level of social consciousness looked like Mezirow's (2000) disorienting dilemma phase of transformation. While Mezirow's (1981) model was initially based on his study of a group of women re-entering college, the disorienting dilemma phase is now used to describe a variety of situations or set of experiences that transcends context and results in catalyzing people through the phases of transformative learning. I believe immersion in an environmental humanities curriculum can provide the context for that disorienting dilemma phase. Analysis of the human-environment relationship on a variety of fronts and through a diversity of lenses can in and of itself be a disorienting dilemma.

The *engaged* level of social consciousness involves not only awareness but also sees people take action directed toward the greater good. Change for the greater good is also an explicitly stated goal of education, to guide students to think outside themselves as they explore everything from ancient history to chemistry to the philosophy of science. The engaged level and its focus on taking action was most evident in my study. Students not only gained greater understanding of the many facets of the human-environment relationship but the consequences of failure to recognize root causes. Recognizing failure, apathy, willful ignorance, and unjust power dynamics as a systemic problem within the human-environment relationship prompted most to take strong stances on action for the greater good.

In the *collaborative* level, people "begin to see themselves as a part of the collective and begin to work with others to co-create or shape the social environment by collaborative actions, such as collective inquiry, social networking and learning" (Schlitz et al., 2010, p. 23). This level is particularly impactful for young adults in a discourse community where discovery often leads to empowerment. Collaborative engagement is a feature of many college classrooms. Schlitz et al., (2010) say, "A key mechanism for the activation of this cognition is empowering conversation. Through the sharing of stories, experiences, and ideas, people begin to recognize that solutions must be co-created with all involved, especially those who are being 'helped'" (p. 28). For a study like mine, taking place in a conversation-based, inquiry driven environmental humanities writing course, collaborative engagement is an essential feature that strengthens and deepens over time as students are confronted with stories, experiences, and ideas.

The *resonant* level is what Schlitz et al. (2010) consider the level at which social transformation might occur. This is when people "report a sense of essential

interrelatedness with others—a field of shared experience and emergence that is felt and expressed in social groups, and that stimulates social transformation" (p. 23). This resonant level is of particular interest as it is reflected in what students chose to articulate in their "autobiography of a future self" narrative. Values expressed in the autoethnography narrative were transformed into a broader category of civic responsibility. I see this as a result of social transformation. There was classroom consensus that if humanity is to succeed, the five areas of universal health care and wellbeing, active resistance to harmful practices and policies, service to others, reduction in materialism and consumption, and connecting with nature are essential and must form the basis of society. This correlates with the resonant level Schlitz et al. (2010) discuss as a higher level of social consciousness. Tickle-Degnan and Rosenthal (1990) claim that "shared attention, good feelings (evoked largely through tones of voice and facial expression), and coordination or synchrony" are essential in the establishment of resonant consciousness (Schlitz et al., 2010, p. 29). Class discussions, debates, and emergent conversations were indicative of the elements of resonant consciousness as well as the values shift in the "autobiography of a future self" narrative.

The developmental levels of social consciousness as conceived by Schlitz et al. (2010) provide a framework for understanding transformations in learning. The table below captures the connections between levels of social consciousness (Schlitz et al., 2010) and Transformative Learning Theory (Mezirow, 2000). While both frameworks are interested in worldview transformations, they offer insight into what can happen when people are given the opportunity to learn, reflect, collaborate, and imagine. Both frameworks offer an effective way to gauge what is happening in an environmental humanities class. Immersed in the practice and pedagogy of the environmental humanities, students experienced transformation on different scales but it was

evident that it affected the way they expressed worldview. The next section looks at Transformative Learning Theory and its role in worldview development.

Role of Transformative Learning

Transformative learning can lead to shifts in worldview. The stages of transformative learning seemed to correlate with the depth and breadth of the environmental humanities course that provided the context for this research. The curriculum and course design offered an empowering platform for students to reconstruct themselves in a world in which they now have a different understanding of what it means to be human, what makes for a meaningful life, and what our responsibilities entail. While my study focused on how, and if, experience within an environmental humanities course affects student worldview and how that is expressed as gauged through the Integrative Worldview Framework (Hedlund-de Witt, 2013). What I discovered was that not only were students attempting to broaden their worldview by including more aspects, guided by the IWF, they were engaging in fundamentally deeper shifts of meaning and value. The environmental humanities inspires transformative learning, higher levels of social consciousness, and a more integrative worldview. Schlitz et al. (2010) say,

> Transformation involves epistemological changes in how they know what they know. It is not only behaviour that changes, but also the motivational substrate from which that behaviour arises. It is not only a change in what people do, but also in who they understand themselves to be at an ontological level. (p. 20)

Although students began to talk about specific sustainable practices and behaviors such as reducing the amount of plastic and water they use and educating others about planetary crisis, understanding behavior changes in students was outside the scope of my study. However, change in understanding of themselves at fundamental worldview levels was apparent in both the

narrative data and classroom discussions. The emergent themes of valuing open mindedness, recognizing other ways of knowing and awakening to care indicate an expansion of worldview components, measured by the articulation and expression of those components.

An important aspect of transformative learning is that it takes place within cultural context. O'Sullivan (2002) states that in "the larger cultural context, transformation carries the dynamism of cultural change" (p. 9). Dynamic cultural change is a shared goal of the environmental humanities. A practical strength of the environmental humanities is identifying cultural context as key to understanding the human-environment relationship and plays an essential role in investigating how those relationships manifest. This area is something science alone cannot offer. As discussed earlier, cultural change comes about through critical examination and critique as we "think through" the environment, unsettle dominant narratives and engage in bridge-building between disparate narratives (Hutchings, 2014, p. 213). Hutchings asserts, "It is the primary task of the Environmental Humanities to foster critical examination in and of all three aspects, equally" (2014, p. 214). This idea lies within the heart of concerns in the environmental humanities as we "unsettle dominant narratives" and guide students to do the same as they wrestle with concepts, ideas, narratives, and evidence both inside and outside the classroom.

Transformative learning has a key role to play in unraveling the complexities of the human-environment relationship. It helps us reframe our experience and our goals in terms of a more sustainable relationship. It correlates to Mezirow's (2000) last two phases of meaning where we hope we assist students in "building competence and self-confidence in new roles and relationships" and where they experience "reintegration into one's life on the basis of conditions dictated by one's new perspective" (p. 22). An environmental humanities curriculum is well

suited to guide students through a transformative learning experience that leads students toward a more integrative worldview that includes epistemological, ontological, and axiological shifts.

The next chapter concludes this dissertation with a discussion of the environmental humanities and public scholarship, implications for practice, emerging adulthood, identity, writing as ecology, and recommendations for further research.

Chapter 6: Conclusions: Environmental Humanities & Worldview

The old story is transforming
A new one unfolds
I am protector and peacemaker,
Intertwined and empowered.
Fixing the environment is not sufficient, but fixing ourselves
Is eternal.
(Poem created from student interview)

Affecting Worldview in the Environmental Humanities

The power of the environmental humanities to provide students with transformative learning experiences that might lead to greater social consciousness and an integrative worldview is clear. It provides a space and context for ecological worldview to develop and offers educators

a plethora of ways to explore the human-environment relationship and to empower a generation of students to expand their worldview.

The need to understand contributors to worldview and worldview expansion have never been more pressing. Using the Integrative Worldview Framework (Hedlund-de Witt, 2012) to operationalize and explore worldview, educators can delve into these connections to better understand and expand students' worldview and levels of social consciousness.

My study focused on how experience within an environmental humanities course affects student worldview and how they chose to express worldview after sixteen weeks of intentional exposure to a diversity of elements representing the human environment relationship. Overarching themes included the value of open-mindedness, recognizing other ways of knowing, and awakening to care and activism, resulting in shifting worldviews. While we cannot possibly hope to completely transform a student's worldview, we can use the tools of the environmental humanities to expand the components of worldview, moving toward a more integrative, ecological worldview that benefits the individual and society.

The environmental humanities does not embrace the Western model of higher education with its industrial-technological focus. Environmental humanists embrace other ways of knowing, integrative and transdisciplinary perspectives, and question meaning and meaning making structures at every turn. They attempt to transcend the industrial-technological lens through which we have viewed environmental problems and rather, 'resituate the human' (Rose et al., 2012) as part of the larger matrix of life. Framing social, political, economic, and environmental complex problems through an ecological worldview changes everything from our understanding of root causes to possible sustainable solutions. Environmental humanists rise to this challenge because now, as Orr states, "Tinkering at the margins won't do" (2016, p. 93).

As stated in chapter two, embracing an ecological worldview necessitates a retooling of our infrastructure, a reconstruction of our value systems, and a new imagining of what it means to be human in the 21st century. The environmental humanities provides a powerful transformative learning experience that can lead to worldview expansion. The transformative learning experience leads to increased levels of social consciousness, making the environmental humanities an effective pedagogical strategy for 21st education where planetary citizenship is inseparable from responsible citizenship.

Environmental Humanities and Transdisciplinary Scholarship

The environmental humanities are inherently interdisciplinary and view transdisciplinary outcomes as integral to exploring the human environment relationship. Schlitz et al. (2010) see that "navigating life in the twenty-first century will require not simply the acquisition of new skills, but also the intentional cultivation of novel states of mind" (p. 33). Transdisciplinary education aims to cultivate such states of mind by centering on wicked problems, another way to describe complex problems, that are often difficult to define, do not lend themselves to simple solutions, and are always embedded in other problems. The goal of transdisciplinary education is to not only take disciplinary insights and integrate them into new understanding and knowledge, it is to organize teaching and learning around real-world problems. Transdisciplinary education contextualizes disciplinary insights, shedding light on meaning and meaning making structures. It is widely recognized that in a globalized world, students must develop skills in non-traditional ways of thinking, listening, creating, and collaborating.

Wicked problems persist in the human-environment nexus, create a perfect context for transformative learning, and can involve scholars, educators, governments, NGOs, and the private sector. Not only are the environmental humanities a rich place for exploring wicked

problems and their various stakeholders, they can provide transformative learning experiences that speak to pressing problems threatening communities around the globe. Wicked problems such as mitigating and adapting to climate change, environmental communication within both formal and informal communities, and environmental justice issues are examples of spaces in which the environmental humanities can enrich our understanding of the problems, stakeholders, and possible solutions. Rather than focus solely on technical or scientific aspects involved in environmental problems, the environmental humanities contextualizes the very real human elements involved in wicked problems that awakens care and values other ways of knowing.

More than ever, scholars, educators, scientists, politicians, artists, and citizens from all walks of life recognize what Uhl (2013) claims is necessary for our future survival, a *new* story. Constructing new ways of interpreting meaning and meaning making are surely necessary if we are to resituate the human and move toward a more sustainable world. O'Sullivan (2002) states, "because of the magnitude of this responsibility for the planet, all our educational ventures must finally be judged within this order of magnitude" (p. 2). What some used to consider edge thinking is now taking central stage as we work toward greater social consciousness of what future challenges await if we continue business as usual, or in Uhl's (2013) conception, the *old* story.

O'Sullivan (2002) agrees that narrative is an essential component of transformative and transdisciplinary learning and that we need stories "of sufficient power and complexity to orient people for effective action to overcome environmental problems, to address the multiple problems brought about as a result of environmental destruction, and to reveal possibilities available for transforming this situation" (p. 7). Narratives have the capacity to transform not only our understanding but also our actions. It is also at the heart of what the environmental

humanities is about and why it is critical to include and support its mission as part of a responsible undergraduate education. Orr (2016) states that "if higher education is to serve the interests of humankind and life in the long emergency ahead, it must be transformed, starting with a change in our concept of education and the purposes that ideas and disciplined knowledge serve" (p. 95). The purpose of education must surely be to manifest more care, compassion, equity, and sustainable practices in the world.

Schlitz et al. (2010) also see the hub of 21st century education as one that speaks to transdisciplinarity and as transcending the traditional Western model:

> Among those skills most essential for success in this new era of global connectivity will be greater cognitive flexibility, comfort with unfamiliarity, appreciation of diverse perspectives, agility in the face of rapidly changing circumstances, ability to hold multiple perspectives simultaneously, and a capacity for discernment that relies equally on intellect and intuition. (p. 33)

Relying equally on intellect and intuition is valued in the environmental humanities and in doing so, creates space for student voices. To embrace other ways of knowing and to listen to student voices, we move toward greater social consciousness. Holm and Brennan (2018) emphasize that,

> Humans use language, narrative, imagination and cognitive models to cope and take action. We nourish values and ethics to guide our choices. These are what the humanities help us to understand and use. Therefore, we need humanities tools to help us transform our perception and imagination for the new human condition. By studying the literature, art, history and philosophy of the environment, we gain deeper insights into human motivations, values, worldviews and choices. (p. 3)

The environmental humanities inspires transformative learning, higher levels of social consciousness, and a more integrative worldview that fulfills a mission of 21st century education. Orr (2016) states "all education, in one way or another, has to do with our terms of engagement with the ecosphere. By what is included or excluded we teach students that they are part of or apart from life and from its very creation" (p. 96). Informing students about environmental issues based on data is important and its value should not be overestimated. However, educators must speak to students' experience, their desire to feel and understand the context of these problems, and to play an active role in decision making and solution finding. The complexity of contemporary and pressing issues highlight the fact that "environmental issues require answers from science, society, and culture" (Kueffer et al., 2018, p. 254). Kueffer et al. (2018) describe an environmental humanities approach as one that values complexity and context. In "Applying the Environmental Humanities" Kueffer et al. (2018) say as environmental humanists,

> We may question the priority that the environmental sciences have granted to overarching syntheses and universal solutions. Rather than searching for the shortest path to the best solution to problems that have already been identified, problem-solving may involve open, exploratory, and experimental processes. EHscholars emphasize that we must learn to better appreciate a problem's intractability. (p. 254)

This is where the environmental humanities is making a powerful contribution. Scholars and educators, artists and writers, and every humanist engaged in this meaningful work use a critical lens and see firsthand the impact a transdisciplinary perspective can have on students and communities alike. Kueffer et al. (2018) point out that environmental humanities scholars "pay attention to the semiotics of knowledge and its social, cultural, psychological, emotional, and

aesthetic dimensions" (p. 255) and in so doing, gain insight into how worldview affects behavior and action. This insight also offers course corrections and strategic thinking for future action. Holm and Brennan (2018) see the relationship between the sciences and humanities as essential and say:

> So, at the end of the day, humanities like all sciences provide society with an evidence base. We provide data, insights, knowledge, ways of thinking. This is why the humanities really matter, we provide social and cultural resilience—ability to understand change, challenges and opportunities—and imagination of the diversity of futures. (p. 8)

As a transdisciplinary and potentially transformative mode of inquiry, the environmental humanities challenges "many paradigms in environmental research, such as dualistic thinking, anthropocentrism and human exceptionalism, generalized systems analysis, and unidimensional problem-framings" (Kueffer et al., 2018, p. 255) which is so critically needed in 21st century education. It opens not only a window in which we might see differently, allowing us to investigate and discover meaning but also opens doors through which we can walk into new understanding and action.

Public Scholarship

The environmental humanities embraces other ways of knowing, provides an evidence base for understanding and action, and creates space for student voices. It also reaches into the communities to listen to the voices of diverse stakeholders. Erupting across the globe, environmental humanities projects are increasingly visible, powerful, and participatory. New forms of engaging with the public and in practice are emerging. Employing question-based dialogues between academia and the public, communicating ideas, experiences, knowledge,

meaning, and relationships through different media and in different settings ranging from visual arts to performance arts to prose, song, exhibitions, stories, and social interventions (Kueffer & Hall, 2018).

For example, the Progress method developed by Kitch (2017) at Arizona State University along with colleagues in the humanities, social and natural sciences, hope to improve environmental science research by "better articulating research questions that reflect multiple viewpoints and reshape scientific methods" (Holm & Brennan, 2018, p. 6). The Progress method asks fundamental questions about how environmental challenges ought to be defined and who is defining them and in what ways. This project "offers strategies for expanding stakeholder engagement, and draws attention to power dynamics and inequalities that underpin problems and shape their solutions" (Holm & Brennan, 2018, p. 6) by engaging academics, government, and the public in meaningful dialogue in hopes of moving toward integrated solutions that benefit people and planet.

Environmental humanists are often consultants, advocates, and activists providing strategic insight on environmental law and regulation, environmental communication, and eco-media (Kueffer & Hall, 2018). For example, grassroots movements highlighting and redefining the human-environment relationship have entered both academia and public scholarship, providing opportunities for exploration and transformation within the public sphere. Agroecology and permaculture are two excellent examples where scholars and practitioners prioritize direct engagement with the environment. The Center for the Arts and Humanities at Haverford College offered a symposium in 2018 called "Beyond the Grassroots: Participatory Ecology and Political Praxis" emphasizing through food growing practices and management of natural resources, the human-environment relationship can be transformed from the ground up

and transform society in the process. Public scholarship in the environmental humanities is geared toward increasing socioenvironmental consciousness and does so by influencing behavior, inspiring transformative learning, and shifting worldviews.

No longer contained within the realm of the classroom, environmental humanists seek to connect their students with the communities in which they live, play, and work in hopes that the problems we face and the decisions we make as a species become interconnected and inseparable from the stories of others. One way environmental humanists achieve this is through the identification and development of environmental narratives but also through ecological literacy. This is accomplished through both theoretical and practical research that directly engages "diverse publics both within and outside of academic institutions so to renew their ethical experience of environmental embeddedness" (Niemanis et al., 2015, p 89).

Environmental humanists working with the European Humanities for the Environment Observatory refer to "the New Human Condition", in order to identify the particular challenges of the 21st century and to engage the public on the inherent human embeddedness and interconnectedness with other species and ecosystems on the planet (Holm et al., 2015, p. 983). Future research and scholarship must proceed upon the basis of our increasingly dire situation where we see natural resource depletion, increasingly severe weather, droughts, floods, vanishing species, climate refugees, and a warming planet. We need more than ever, a broad coalition of academics, citizens, universities, corporations, and governments to unite on an evidence-based platform. Our evidence base must come from the humanities and social sciences as well as the natural sciences and be communicated widely and accessibly with everyone.

Implications for Practice

Emerging adulthood, identity, and the environment. Arnett (2007) proposed five features that make emerging adulthood a distinct life phase that can be differentiated from adolescence and full adulthood. It is the age of identity exploration, the age of instability, the self-focused age, the age of feeling in-between, and the age of possibilities (Arnett, 2007, p. 69). Any of these elements may be present at various ages throughout the human lifespan, but what makes emerging adulthood unique is that it is the least structured time of a person's life all five features are present simultaneously (Arnett, 2007). In working with students in this age group in a Western context, I believe this definition is effective for investigations related to worldview.

This theory has challenged Erikson's theory of psychosocial development that took people from adolescence into adulthood (Erikson, 1950). Arnett (2007) recognized that Erikson's theory no longer made sense in the late 20th century because young adults were no longer immediately marrying and entering stable, full-time work. The "normative paradigm in industrialized societies" was no longer applicable to society at large (Arnett, 2007, p. 68). Young adults began to postpone marriage, cohabitate, and pursue training and/or education. Arnett (2014) states:

> The rise in the ages of entering marriage and parenthood, the spread of education and training beyond secondary school, and prolonged job instability during the twenties reflect the rise of a new life stage for young people in the United States and other economically developed countries, lasting from the late teens through the mid- to late twenties. This period is not simply an "extended adolescence," because it is very different from adolescence—much freer from parental control, much more a period of independent exploration. (p. 2)

Chiang and Hawley (2013) agree that adolescents should not be considered young adults as most of them have not yet entered or committed to long-term adult roles. Chiang and Hawley (2013) claim that "the existence of emerging adulthood as a distinct period of development depends on how tolerant society is of new adults' dependence economically and socially" (p. 5). Indications of the tolerance of society include the many families that have welcomed young adults back in to the home during periods of economic decline (Chiang & Hawley, 2013) or that many emerging adults continue to live at home during their college years.

Emerging adulthood is a time for exploration and possibility and as such, presents a unique opportunity for identity development. Identity in this post-adolescent stage is dynamic, a time when experience is gained and new ideas are processed. While this may continuously occur throughout the human life course, the ages of 18-25 offer a unique receptivity to trying new things and opening to possibility. It can be a challenging period in human development but also a time ripe for rich investigation of the world around us. The distinctive features of emerging adulthood include "a focus on oneself, a feeling of being in between adolescence and adulthood, instability, and openness to a wide variety of possibilities. These features encourage, and provide time and space for, consideration of identity alternatives in areas such as career, relationships, sexuality, philosophy of life, and religion and spirituality (Schwartz et al., 2013, p. 97).

Much of Arnett's (2007, 2014, 2016) work with emerging adults has centered around American college students (Hendry & Kloep, 2010). Young adults enrolled in college may be particularly open to shifts in identity as they are willingly seeking new experiences and knowledge as American college students take nearly two years of general education courses designed explicitly to expose them to a wide range of ideas. Arnett (2016) points out that the college experience may in fact be the ideal space in which to engage in identity exploration

because, “As they try out different courses and different majors, they explore a variety of different ideas that help them develop their worldview” (p. 219). If emerging adults “benefit from growing social cognitive maturity, which enables them to understand themselves and others better than they did as adolescents” (Arnett, 2007, p. 70) then identity shifts may not only be more likely, but more evident.

Emerging adulthood signifies a socio-cultural shift in developed countries as young adults have more options and opportunities available to them. Young adults are not only transitioning into adult roles at a slower pace, they are developing psychologically in different ways. The period from ages 18 to 25 is now viewed as a distinct developmental phase and is experienced differently based on gender, culture, opportunity, and socio-economic factors (Arnett, 2016).

The field of emerging adulthood is evolving and rapidly expanding to include a range of characteristics of emerging adulthood and experiences. Critiques of emerging adulthood include claims that emerging adulthood is a phase rather than a distinct developmental process. James E. Côté (2014) claims that Arnett’s (2007) theory of emerging adulthood exhibits optimism bias as it focuses on identity explorations as being the underpinning for challenges faced during this phase of life. Côté (2014) views this volatility experienced by many emerging adults as anything but identity exploration and in fact, claims that Arnett (2007) is “normalizing the degraded status of young people in the political economy that has taken hold since the 1980s” and argues that this misguided label can negatively impact policy by encouraging policymakers to forego legislation that would otherwise support young people through transition to adulthood (2014, p. 186).

Another critique of emerging adulthood is that ongoing research "relies too heavily on college samples" and that "although there have been efforts to represent emerging adults not in college, there continues to be a need for greater representation of the diversity within emerging adults" (Syed, 2016, p. 376). Syed (2016) also notes that emerging adulthood research "continues to rely too heavily on single-informant, cross-sectional, survey data" and that there is a "need for qualitative and mixed methods research" (p. 376).

Perhaps the most important critique of Arnett's (2007) theory of emerging adulthood is that it has been presented as a normative development phase. Hendry and Kloep (2010) found in their research with Welsh youth, not enrolled in college, that "there are considerable variations from the 'standard emerging adult' transition even in modern Western societies" (p. 177). Based on the viewpoints as articulated by the Welsh youth themselves, Hendry and Kloep (2010) conclude that "transitions to adulthood are so individualistic and varied that they cannot be encapsulated under a general stage theory" (p. 177). However, for purposes of this research, involving youth enrolled in college in a Western context, this theory is very useful.

Arnett (2016) argues that there is much work to do in the growing field of emerging adulthood in terms of young people on non-college paths, in developing countries, and differing cultural demographics (p. 5). Syed (2016) is careful to point out that Arnett's (2007) definition of emerging adulthood is not considered a "universal life stage but instead one that has emerged in certain industrialized societies due to social and economic changes that have led to delays in marriage, parenthood, and the assumption of other adult roles" (p. 11).

A limitation related to Hendry and Kloep's (2010) concern about the "generalizability" of emerging adulthood as a normative developmental phase is the supposition that it can be utilized as the pivotal time to influence identity. This may be a premature concern as thus far, emerging

adulthood research has largely been limited to relationships, marriage, family, work, and education. Some research has been done with identity and emerging adulthood (Bynner 2005, Davis, Green, & Reed 2009, Schwartz *et al.* 2013, Blatt 2014) but there is much to be done to understand the contributing factors to identity, the malleability of identity, and the potential of identity development between the ages of 18 and 25. While the above areas arguably represent the fundamental pillars of human experience and ought to continue to be researched and understood, a critical area that has been largely neglected is the development of environmental identity during emerging adulthood.

Despite the criticisms of emerging adulthood, there are unique opportunities that enable educators to better understand the experience and motivations of emerging adults but as Hendry and Kloep (2010) claim:

> the findings from our exploratory investigation suggest the significance and importance of taking into account the interactions of various elements, such as self-agency, individual life experiences and health, relationships, economic and social changes, structural forces, and a problematic labour market, to understand the diversity of human responses to extended periods of change, including the transitions to adulthood. (p. 178)

Emerging adulthood has grown in the sixteen years since its initial inception. Scholars have conducted hundreds of studies with emerging adulthood populations and research is ongoing. The Society for the Study of Emerging Adulthood is a multidisciplinary organization with a focus on theory and research with its flagship journal, *Emerging Adulthood.* Contemporary areas of research include emerging adulthood in specific contexts such as the family, friendships and romantic relationships, education, and work. Other areas of focus include social media usage, identity, cultural and religious beliefs, risk taking, and resilience. It is a

theory worth consideration especially in the context of undergraduate higher education and the development of an ecological worldview, transformative learning experiences, even environmental identity.

Identity is of particular interest in relation to ecological worldview. Emerging adulthood, identity, and the environment create a powerful nexus for inquiry into the role of the environmental humanities and worldview. Identity refers to our sense of self, how we think of ourselves. For human interactions and the larger social consequences of those interactions, identity becomes an important lens through which to gauge behavior and outcomes. Crompton and Kasser (2009) say that "most identity theorists agree that identity influences how people respond to the broader social world and how they choose to live their lives, and that this sense of self emerges from the confluence of internal psychological dynamics on the one hand and the social context on the other" (p. 7). Identity formation occurs both individually as well as collectively. It is significant because it has consequences for the way we think and process information, engage with our communities, and make decisions regarding our behavior. This alone warrants the continuing study of identity and its development throughout the life stages. At the age of exploration, emerging adults enrolled in college shape and are shaped by their experiences in ways that many people are not. We know that "people are not passive recipients of experience, but active constructors of that experience" (Clayton, 2012, p. 165). Identity development in individuals is a complex process with many contributing factors such as socioeconomics, family and community ideology, and personal preferences. Acquired over time, identities can be fixed or fluid, are related to self-worth, and are affected by action taken or not. The social context in which we gain experiences also defines identity. Identity has a function and

can "affect attention, evaluation, memory, and motivation" and therefore behavior by prescribing behavior and action (Clayton, 2012, p. 167).

Environmental identity. Contemporary conceptualizations and understanding of identity make it a significant space for investigations of the human-environment relationship. Crompton and Kasser (2009) say, "The idea of social identity has been extended to include a person's sense of belonging to nature" (p. 11).

Still, educators may ask, why identity? As evidenced in the historical literature of identity development, identity is a "requirement of social life" and provides for us a sense of belonging and personal significance (Hayes-Conroy & Vanderbeck, 2005, p. 312). This is apparent for emerging adults enrolled in college as emerging adulthood is the time when social dynamics are at their most fluid and exploratory. Human identity is a process of creating ourselves and our cultural context in hopes, one can assume, of gaining deeper understanding of one's place in the world which is also a goal of higher education. Turner and Donnelly claim that "social theorists have long argued that we are constantly engaged in this devising, that we formulate and reformulate ourselves through each symbolic act we take part in. Whether knowingly or unknowingly, we each adopt a combination of the cultural elements available to us to forge our own conceptions of the world" (2013, p. 388), but where does the environment fit into this scheme? For some scholars (Schultz, Shriver, Tabanico, & Khazian, 2004), an environmental identity means the inclusion of nature within people's cognitive representations of the self but for others it includes a relational component, how we relate to the environment and assign meaning (Stets & Biga, 2003). Clayton (2003) defines environmental identity as:

> A sense of connection to some part of the non-human natural environment, based on history, emotional attachment, and/or similarity, that affects the ways in which we

> perceive and act toward the world... An environmental identity can be similar to another collective identity (such as a national or ethnic identity) in providing us with a sense of connection… and with a recognition of similarity between ourselves and others. (p.45)

Clayton (2012) claims the environment can provide relevant content for three reasons: it is a rich source of psychological significance, it fulfills core self-relevant motives, and it has sociopolitical significance (p. 167). Clayton (2012) states that, "Clearly, identity is both an important psychological construct and one that is increasingly recognized as relevant to environmental issues" (p. 164). Devine-Wright and Clayton (2010) expand on this claiming:

> Our identities are shaped by the experiences we have with both social and nonsocial stimuli, the people and places that we encounter, and these identities affect our responses to new events. Attention to, and interpretations of, environmental threats are clearly filtered through a perspective based on the perceiver's identity. (p. 267)

Filtering our perceptions through an identity lens becomes critically important to decision making if "identity is fundamentally a way of defining, describing, and locating oneself" (Clayton, 2012, p. 165). Clayton (2012) asserts that we ought to emphasize environmental identity as it is "a particularly rich source of psychological significance" and "fulfills core self-relevant motives" (p. 167). As seen in Russell et al. (2013) and Hartig et al. (2011), researchers have effectively documented the positive benefits of connections to nature. For Clayton (2012) there is also sociopolitical significance because environmental identity generates "attention, evaluation, and action – and thus may be imposed or reinforced from the outside" (Clayton, 2012, p. 167). Crompton and Kasser (2009) see that "an environmental identity offers a sense of association and belonging to a group. So, to the extent that people consider themselves part of nature, or see nature as part of their in-group, we would anticipate that they will be more likely to

act in pro-environmental ways. But to the extent that they see themselves as separate from nature, it is expected that they are more likely to behave towards it in damaging or exploitative ways" (p. 12).

Sociopolitical and cultural contexts both contribute to identity and can result in a poorly developed environmental identity. These contexts may also develop a prominent environmental identity or an identity that falls somewhere in between. For example, having a prominent environmental identity decades before the technological age may have been perceived differently than today when information about environmental crises is widely available and visible to anyone with access to the internet. Pre-internet day-to-day living may have resulted in environmental identity as more common as people were more likely to be outside playing and exploring. Post-internet day-to-day living may impact environmental identity by increasing visibility of not only environmental crises but in sharing with viewers the beauty, adventure, and inspiration of nature.

Possessing an environmental identity allows us to transcend the self and include the larger matrix of ecosystems and living communities on which we are dependent. Devine-Wright and Clayton (2010) emphasize the importance of cognitive processing as part of identity that would include consideration of the larger matrix of ecosystems if one possesses an environmental identity. Clayton (2012) states that "people high in an environmental identity would pay more attention to environmental information, have a tendency to organize information on the basis of environmental implications, and respond more quickly to environmentally relevant decisions" (p. 172). The development of such an identity has tremendous implications for human behavioral patterns because identities connect abstract issues and personal issues more relevant. Clayton (2012) offers the example of place-based identity to illustrate how people shift

their perception of an abstract environmental issue such as water pollution to water pollution of the local lake. Humanizing environmental issues connects people to the environment in concrete ways. The tangible connections to place and environment bring the natural world into our expanding scope of concern and decision-making. Thomashow (1996) referred to this as extending our sense of self in relationship to nature and that ecological identity work can be developed as students consider their worldview and its relationship to nature. In knowing the contributing factors to identity and the power social forces have on identity creation, a central question arises: how do educators contribute to the development of an environmental identity?

If someone has little to no evidence of an environmental identity, he or she is likely to dismiss grave environmental concerns such as soil erosion, a warming climate, or loss of biodiversity. Clayton and Myers (2015) emphasize that ecological thinking or insight "can precipitate a profound and rapid dialectical reorganization of meanings about the self, making self and world part of one whole, with simultaneous deep re-evaluations of responsibility and action" (p. 60). Educators can facilitate this "reorganization of meanings" Clayton and Myers (2015) through the development of discourse communities, curriculum, and problem-based projects.

Cultivating environmental identity is critical because of the pressing need to develop an ethic of care for the natural environment and to understand more fully the role humans play in the acceleration of its decline. Swim et al. (2011) share this sentiment in their explorations of the psychological and contextual drivers of human behavior that we are making significant contributions to climate change. They emphasize that because "humans produce this global impact through our use of natural resources, multiplied by the vast increase in population seen in the past 50 to 100 years" we have an obligation to get to root psychological causes (Swim et al.,

2011, p. 251). Understanding the depth of the role identity plays and how we might best cultivate an environmental identity has become a focus in several disciplines other than the humanities including psychology, geography, and political science. Although Swim et al. (2011) admit there is much research to do before making policy recommendations, they caution researchers that ethical considerations are not to be taken lightly because the psychological and contextual drivers in this case point to natural resource consumption and population, both controversial areas in which to probe personal habits and lifestyle choices. Other issues arise when comparing countries on a global scale. Comparisons of consumption and population issues are not easy to make between developed and developing nations because of persistent global inequities (Swim et al., 2011).

Despite the ethical challenges involved in understanding and critiquing the psychological and contextual drivers within the human-environment relationship, it is a relationship that tells us about human identity and the values and beliefs that comprise it. Clayton (2012) notes that identity and the environment have a bidirectional relationship in that the natural environment and one's relationship to it helps construct and activate an identity while that identity influences behavior toward the environment (p. 171). This is the key piece to identity explorations; identity impacts our decision-making processes in a multitude of ways. Self-presentation, personal connection to place, values linked to behavior, and social identity are all key components of human identity (Clayton & Myers, 2015, p. 177).

There are some critical limitations when attempting to contribute to the development of an environmental identity over the course of a sixteen-week semester. Research suggests that "experience of the natural environment plays an invaluable part in the construction of environment-related identities" (Hinds & Sparks, 2009, p. 182) and while college writing

classrooms may take place out of doors, experience with nature may be limited to what is available and the applicability to curriculum. Hinds and Sparks' (2009) research suggests that "a reciprocal relationship may exist between the natural environment and the people who engage with it: experience of the natural environment may be able to simultaneously promote affective well-being on the one hand and proenvironmental orientations on the other" (p. 185). Experience plays a key role in developing environmental identity. Still, understanding how we move toward a classroom and curriculum aimed at connecting with the environment regardless of experience levels students are coming from, is central to developing environmental identity.

Researchers are attempting to narrow the gap (Kollmuss & Agyeman, 2002) between environmental knowledge and awareness and pro-environmental behavior. There are numerous factors that contribute to the gap between knowledge and action or what Blake (1999) calls the Value–Action Gap. He states that "most pro-environmental behavior models are limited because they fail to take into account individual, social, and institutional constraints and assume that humans are rational and make systematic use of the information available to them" (quoted in Kollmuss & Agyeman, 2002, p. 246). Blake (1999) notes that research "has been based largely on cognitive theories of how individuals form their attitudes and plan their behaviour in a rational and often unproblematic way" (p. 264).

Blake (1999) identified barriers to closing the gap between knowledge and action including individuality, responsibility, and practicality (p. 266). Individuality consists of "personal values and cognitive structures" that become important in understanding the gap between knowledge and action as these environmental attitudes are on the periphery of what Blake (1999) refers to as the "wider attitudinal structure" (p. 266) where the environment is not a priority. Responsibility involves people's perception of environmental consequences and their

own role in accountability and responsibility. Blake (1999) notes that this is often a reflection of social values that contribute to a sense of being overwhelmed by the nature of environmental problems where one individual cannot make a difference (p. 266). Blake's (1999) notion of practicality refers to the external features that inhibit people from taking pro-environmental action. This can be social or institutional and often take the form of lack of time, money, and facilities for taking action (Blake, 1999, p. 268). Blake (1999) suggests that we must be, "sensitive to the everyday contexts in which individual intentions and actions are constrained by socioeconomic and political institutions" (p. 274). This is what the environmental humanities aims to do – contextualize environmental problems and resituate the human within the environment so that the many factors contributing to the gap between knowledge and action can be unpacked, addressed, and reduced.

Van der Werff, Steg, and Keiser (2013) describe the entanglements of values and environmental identity. The exploration of conceptual differences between what van der Werff et al. (2013) refer to as "biospheric values" and environmental identity is beyond the scope of this paper but it is important to highlight the findings of their study analyzing biospheric values and environmental self-identity and the impact on pro-environmental behavior. Values and identity have long been considered the antecedents of behavioral choices but when analyzed in terms of the connections to pro-environmental behavior, it has not been frequently studied (van der Werff et al., 2013, p. 55). It is also important to note that van der Werff et al. (2013) define environmental identity differently than Clayton and Myers (2015) and see an "environmental self-identity as the extent to which you see yourself as a type of person who acts environmentally-friendly" (p. 56). Van der Werff et al claim (2013) that "environmental identity reflects whether one sees oneself as part of nature, whereas environmental self-identity reflects

the view of self as a person who acts pro-environmentally" (p. 56). Interestingly, van der Werff et al (2013) see environmental self-identity as "particularly relevant to understanding pro-environmental actions, as it more directly reflects pro-environmental actions, rather than only the importance of the environment as such for the self" (p. 56). This may be the case, but I am speculating on the connections between how environmental identity might lead to pro-environmental behavior not accepting that one can experience a deep affinity for nature, that is, have an environmental identity, and necessarily act in pro-environmental ways. This is what the research shows. There is a gap between awareness of and an affinity for nature and the behavioral steps that would deepen that identity.

Development of an environmental identity seems especially prudent in an age where the human-environment relationship is under stress, environmental problems magnified, and consequences of ignoring human impact on the environment increasingly felt on the global stage. While environmental identity may be constructed and strengthened throughout one's life, emerging adulthood is a unique opportunity to engage with identity development and its potential to impact behavior. One way educators might engage in this development is through the environmental humanities. The next section discusses how rhetoric and composition can specifically contribute to the environmental humanities.

Writing as ecology. As my study shows, college composition is a promising area for further research in the environmental humanities. Wals and Blewitt (2011) claim that we are in the third wave of sustainability in higher education, that the shift has taken place to "focus precisely on the teaching and learning implications of sustainability" that it now "requires a fundamental change of epistemology, and therefore of both education and learning" (p. 57). This

fundamental change in epistemology is manifesting as a more integrative, systemic view of society and education.

Perhaps there is no curricular space in higher education where transdisciplinarity is more effective than in teaching and writing about environmental issues. How can writing studies situate itself within this transdisciplinary framework to call upon its role in the synthesis of various ways of knowing? As a foundational skill set, composition studies has been overlooked for its capacity to contribute to the greater conversation of the human-environment relationship. Gärdebo, Helsing, Svensson, and Brenthel (2015) urge us to see that the sub-disciplines in the humanities have an important thematic thread that is often overlooked; they claim that, "The commonality is then not necessarily the humanities but the environmental imperative that researchers have rallied behind and are now seeking consortium to work within" (p. 46). As a sub-discipline within the humanities, writing studies has the opportunity to play a primary collaborative role as it should not be relegated to the realm of grammar, syntax, and other basic writing skills but rather engage in the discourse of the personal, social, political, and environmental.

English departments engage with environmental topics, but courses are often housed as environmental literature or nature writing. Doing so contributes to the goals of environmental humanities but teaching writing as a rhetorical and ecological process seems underutilized. Moekle, Bartels, and Parker (2012) claim that "composition specialists can encourage students to explore matters of sustainability using the lens of rhetoric, that is, the study of the most effective means of persuasion as well as of how competing expressions shape our thoughts and actions" (p. 77). Moekle et al. (2012) describe a second-year writing course entitled "A Planet on Edge: The Rhetoric of Sustainable Energy" where she helps students see how "rhetoric in a particular

context frames social realities" (p. 78). Rhetorical communication does not happen in isolation and underscores the ecological nature of reading and writing. They claims that "rhetorical analysis can help students unpack debates about sustainability and the environment by giving them tools with which to discern the political, social, and moral agendas of those involved, while simultaneously strengthening the effectiveness of their own rhetorical choices" (Moekle et al., 2012, p. 77).

In *Ecology, Writing Theory, and New Media* Dobrin (2011) describes ecocomposition as having "evolved into little more than opportunities to bring examinations of nature writing and other environmentalist topics into composition classrooms as topics of discussion or subjects about which to write" (p. 2). Moekle et al. (2012) see the rhetorical lens as key to engaging undergraduate writers in human-environmental discourse, where:

> The field of writing studies creates an ideal context in which students can explore this subject as shared, human concern, whatever their academic interests and specializations may be. By generating discussion about the intersections between rhetoric and sustainability, we offer students a space in which to make connections that transcend disciplinary boundaries and enable them to collaborate for a better future. (p. 83)

Emphasizing writing and analysis within this contextual framework is an ecological act and as such is an exemplary platform for engaging the environmental humanities.

As scholars like Owens (2001), Dobrin (2011), Moekle et al. (2012), Weisser (2012), and many others are clearly demonstrating, writing studies is in a unique position to engage the environmental humanities in an impactful way. Writing courses are fundamentally open-context opportunities for students to learn and practice the craft of articulation, analysis, and reflection. Composition pedagogy holds a unique place in higher education because, according to Owens

(2001) it "enjoys a kind of contextual freedom and disciplinary flexibility" that many disciplines do not (p. 5). Owens (2001) also states that the composition classroom has "more leverage for encouraging students to explore a variety of themes and experiences" and along with this come more "zones of inquiry that juxtapose eclectic webs of information, inspiration, and provocation" (p. 5).

Critique and action, central tenets of the environmental humanities, are tools of critical thinking, analysis, and reflection in the writing classroom. Dobrin (2011) claims that "rhetoric and composition is an ecological endeavor in that writing and rhetoric cannot be separated from place, from environment, from nature, or from location" (p. 13). Writing is about relationships, "between writers and texts, between texts and culture, between ideology and discourse, and between language and the world" (Dobrin, 2011, p. 12). As such, writing instructors ought to embrace ecological methodologies to further explore these relationships for the benefit of students, community, and planet. Fleckenstein, Spinuzzi, Rickly, and Papper (2008) astutely observe that "an ecological sense of the phenomenon of millennial writing gives rise to a specific array of concerns: the co-evolution of writers, texts, and environments as relationships; the conditions necessary for the stability of a writing ecosystem" (p. 393). Writing the world takes many forms and utilizing ecological methodologies to engage the writing process enriches understanding of both content and context, empowering students to think through environments, both natural and human-constructed while engaging in self-reflection, critical thinking, and even revolutionary thinking.

A writing classroom is fertile ground for the cultivation of critical analysis, critique, and creativity for the common good. Grounding students in the discourse of environmental issues, both natural and human-constructed, helps solidify skills-based analysis, critique, and

collaboration. Having a working knowledge of only the science behind environmental problems is like looking at the sky with one eye closed; you may miss something coming in from the periphery. The humanities have been relegated to the periphery of the environmental conversation but we know that root causes of crises lie within human constructs. This is a commonplace mishap for humans; we tend to deconstruct issues so that they are more easily managed and in doing so, take the narrow view of problem-solution. Taking a more ecological perspective, we are forced to confront the many strands of evidence found in a diverse and multi-disciplinary playing field that speaks to root causes of both environmental and social ills.

For composition instructors, this affords a bounty of opportunity for guiding students through the process of developing critical thinking skills, analytical writing skills, and a broader conceptual framework for understanding the world as we now see it. Turner and Donnelly (2013) remind us that "the classroom is a site of great potential for positive cultural change, as any educational practice carries with it the possibility to either reinforce or transform students' beliefs and understandings of the world" (p. 388). In utilizing the environmental humanities as a foundation for composition pedagogy, we open our students up to the discovery and evaluation of anthropocentric attitudes that shape both our interior worlds as well as the exterior world that is sending distress signals at regular intervals.

Recommendations for further research. As discussed, there are a variety of ways to include the environmental humanities in curriculum. One area that requires robust research efforts is to more closely study the relationship between college courses that engage the environmental humanities and environmental identity. Longitudinal studies involving emerging adult students as they move through the general education curriculum into major areas of study would provide a deeper look at the impacts of teaching with the environmental humanities.

Including multiple courses in a study would aid in understanding the impacts of curriculum and discourse communities. Having students in these courses conduct self-assessments on worldview and environmental identity would also provide more insight than narrative data analysis alone.

Another area educators should continue to push is integrating an environmental humanities curriculum into a wider variety of courses. While this study shows that a college composition course has potential to impact worldview and to help students better understand the human-environment relationship relative to their own experiences and beliefs, other writing-intensive classes would benefit as well. Traditional courses that think through writing such as history and philosophy could easily embrace the environmental humanities but it is not limited to the humanities. Further studies could investigate ways to incorporate the environmental humanities into courses like chemistry or physics. Regardless, as an emerging field predicated on unsettling dominant narratives through critique and other forms of resistance, thinking through the environment, and bridge-building between disparate narratives (Hutchings, 2014, p.213) there are a plethora of ways higher education can embrace the environmental humanities.

The current political climate is designed to reward science, technology, engineering, and mathematics disciplines with priority funding and focus prevents integration of the work of natural scientists with the work of environmental humanists and social scientists (McCalman, 2017). Holm & Brennan (2018) claim that barriers are also created by "the lack of recognition of the internal complexity of the humanities disciplines" (p. 6). Holm et al. (2015) agree that:

> While the sciences may observe and analyze change, they are not organized or structured to create social policy and influence humans to change values and opinions. The human sciences—the mixed bag of academic disciplines in the humanities—are, on the other

> hand, a fertile and largely untapped resource of insight into human motivation, creativity, and agency. (p. 981)

Misunderstanding the mission of the environmental humanities creates additional barriers for humanists across the curriculum as well as in the natural sciences. Wood and Peterson (2014) claim that:

> It has no possibility of restoring the prestige and curricular centrality of the humanities. It is a frail substitute for learning about the sciences that bear on climate change or other ecological issues. And the idea that it will abolish the distinction between humanity and nature is just a bubble of intellectual vanity. (para. 23)

What Wood and Peterson (2014) fail to understand is that the environmental humanities do not claim to be a substitution for the knowledge and empirical data science can offer. It also does not claim as its mission to abolish the distinction between humanity and nature. An ecological worldview does not remove the distinction between humans and nature; it resituates the human to emphasize our embeddedness within nature. What the environmental humanists do claim is that developing an ecological worldview places nature firmly within our decision-making matrix rather than relegate it to the outside as an invisible partner, complicit in our greedy attempts at consumption and domination.

While the sciences have made explicit our role in hastening climate change, they have not been able to affect worldview among the general population. Scientists work diligently to hone their communication skills to make the data more accessible, understandable, and clearer. Climate scientists are popularizing science communication and reaching the wider public audience through creative video presentations, lecturing in public venues such as community centers and churches, and communicating in clear and concise messages via social media. These

strategies are effective and laudable. However, the humanities offer a plethora of ways to interpret environmental narratives, to understand the social and cultural roots of environmental problems, identify and communicate stakeholder positions, and formulate integrative strategies for moving toward more sustainable communities and practices.

Environmental sciences and humanities are stronger together, offering students and other adult community members a powerful toolbox to investigate, interpret, and better understand the landscape we now find ourselves in as well as the tools to strategize resilient responses. All of these efforts have the ability to affect worldview. Jurin and Hutchinson (2005) say "more work of this kind is needed with students and adult populations to understand how certain worldviews can create barriers both to environmentally responsible citizen action and open dialogue" (p. 499). The environmental humanities create a space for student voices to explore and expand worldview and in doing so open dialogue among different stakeholders and their communities, reducing barriers to environmentally responsible citizenship. Kueffer et al. (2018) claim that "The undisciplined knowledge of EH transgresses simplistic dichotomies and racial boundaries, often embracing relativism, marginal sciences, and subjective practices such as empathy, experiential knowledge, and experimental creativity. Such epistemologies require novel forums for knowledge co-production between science and society" (p. 255). Future research must prioritize areas of inquiry that result in knowledge coproduction. Holm et al. (2015) claim that this transformative process would "test new models for humanities outcomes, public engagement, policy formulation, and pedagogical impact" (p. 977). Kueffer and Hall (2018) suggest that environmental humanists ask themselves how their perspectives might "alter, complement, or replace existing and emerging bodies of environmental theory, for instance in visions of sustainability or in societal transformation" (para. 7). The Humanities for the

Environment (hfe) projects are outstanding examples of this transformative process in action. The "Living with Critters" project engages students and citizens to better understand our relationship with other-than-human species.

> The goal of "Living with Critters," is to empower students and citizens to act as cultural street scientists with an eye toward the ethical dimensions of discovery and representation of nonhuman species. "Citizen scientists," guided by humanities scholarship, will focus on how, on the one hand, abundant wildlife (e.g., in one's backyard, neighborhood, region, etc.), and charismatic megafauna, (e.g., endangered species, typically in small populations, and often with little human interaction), as well as other well-known taxa, are represented by diverse interest groups to try to make the public care about animals. While legislation and policy focused on endangered species, it addresses only small pieces of a larger problem of lives overlooked; "Living with Critters" asks how humans think about other critters, what are the consequences of these modes of thinking and valuing, and how can we change thought and habits of dwelling to include living with nonhuman life?

Environmental humanities projects such as "Living with Critters" provides transformative opportunities that lead to every day action. Holm et al. (2015) point out that "humanities skills are rarely utilized for strategic change, and humanities academics are also often reluctant to position themselves in this way" (p. 985) but future scholarship must have an eye toward action as we educate students in "the New Human Condition" (p. 983).

By identifying barriers and working to reduce them, environmental humanities and social sciences scholars can engage in the construction of alternative narratives that challenge the dominant paradigms and teach students the skills of counterfactual scenario building (Holm et

al., 2015, p. 983). Helping students envision alternative narratives of resiliency and innovation ought not to be left to the techno-scientific world. We can teach students to explore "the spectrum of the human imagination—from the mundane, everyday imagination to daydreams and fantasy" where "counterfactual thinking helps us how to think about the future in hypothetical ways, and can provide a key to addressing human issues of consciousness, perception, and agency" (Holm et al., 2015, p. 983). Our students are agents of change and we must make fundamental shifts in the way we think (Schein, 2015, p. 25).

My study provides insights for future scholarship and teaching. The environmental humanities holds promise and potential to awaken an ethic of care and civic engagement in students as part of an integrative worldview. As educators and as planetary citizens, however, we must create and make visible, the space, language, and context in which to give voice to their understanding of and desire for a more sustainable world, a world where ecological consciousness underpins civic responsibility. David Orr (2004) famously asked, *what is education for*? He boldly claimed that "all education is environmental education. By what is included or excluded, students are taught that they are part of or apart from the natural world" (Orr, 2004, p. 12). Since Orr's proclamation, a growing number of scholars have articulated similar sentiments, including Uhl's (2013) conception of ecological consciousness, and groundbreaking collaborative projects are taking place across the globe. We know that exclusion breeds blindness, even contempt. We can no longer afford to relegate planetary well-being to this dark place. The time for a new story is here and the environmental humanities must take the lead.

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APPENDIX A: Autoethnography Assignment Instructions

Autoethnography Assignment Instructions

An autoethnography is a form of writing that analyzes some aspect of the intersection between self and culture. It is an exploration of personal identity in relation to an aspect of culture. Writing an autoethnography is an act of self-representation with the goal of problematizing social and cultural norms and practices through the lens of your personal experience.

We've spent a significant amount of time discussing ecological consciousness in the context of Christopher Uhl's book Developing Ecological Consciousness, The End of Separation. Take what you have discovered and construct an essay around your own identity and experience with that of the environment.

As a place to begin, consider the components below. How do you feel about these aspects of worldview and where do you stand? Now consider which area(s) are problematic in society as you see it? Do not answer these questions as a list. They are meant as guides to help you reflect on yourself within society and to help identify and problematize social, economic, political, and/or cultural issues as they relate to the environment. The heart of your assignment is your relationship with the environment, however you choose to frame that experience.

The five aspects of the Integrative Worldview Framework (Hedlund-de Witt, 2012)

1. Ontology: a perspective on the nature of reality, often enriched with a cosmogony.	What is the nature of reality? What is nature? How did the universe come about? If there is such thing as the divine—what or who is it, and how is it related to the universe?
2. Epistemology: a perspective on how knowledge of reality can become about.	How can we know what is real? How can we gain knowledge of ourselves and the world? What is valid knowledge, and what is not?
3. Axiology: a perspective on what a 'good life' is, in terms of morals and quality of life, ethical and aesthetic values.	What is a good life? What kind of life has quality and gives fulfillment? What are our most cherished ethical and aesthetic values? What is life all about?
4. Anthropology: a perspective culturally derived and shared on one's place within the universe.	Who or what is the human being in relation to culture and society? What is the nature of being human? What is one's role and purpose in existence?
5. Societal vision: a perspective on how society should be organized and how societal problems and issues should be addressed.	How should we organize our society? How should we address societal problems and issues?

Suggested steps:

1. Explore ontology, epistemology, axiology, anthropology, and societal vision for yourself.

2. Identify patterns in your thinking. Does something in particular come up frequently in your concerns?
3. What issues are related and what does your experience tell you?
4. How does this relate to the environment? Ecological consciousness?
5. Find sources to help support your positions/thoughts/concerns.
6. Frame your Autoethnography and sketch an outline.

APPENDIX B: Autobiography of a Future Self Assignment Instructions

The "autobiography of a future self" Assignment Instructions

This semester we've worked on writing our own narratives and researching those of others. We've connected our stories to developing ecological consciousness while looking at those whose stories intersect with this concept and those whose don't connect. Now, you get to flash forward and create the narrative you want to see as you look back on your fictitious life.

Construct a story that contains elements of the worldview framework below. Imagine your future self, wiser and more experienced, and ask yourself these questions:

1. Ontology: a perspective on the nature of reality, often enriched with a cosmogony. ***What are we doing here?***	*What is the nature of reality? What is nature? How did the universe come about? If there is such thing as the divine—what or who is it, and how is it related to the universe?*
2. Epistemology: a perspective on how knowledge of reality can become about. ***How do we know what we know?***	*How can we know what is real? How can we gain knowledge of ourselves and the world? What is valid knowledge, and what is not?*
3. Axiology: a perspective on what a 'good life' is, in terms of morals and quality of life, ethical and aesthetic values. ***What gives life meaning?***	*What is a good life? What kind of life has quality and gives fulfillment? What are our most cherished ethical and aesthetic values? What is life all about?*
4. Anthropology: a perspective culturally derived and shared on one's place within the universe. ***How has culture and society influenced me?***	*Who or what is the human being in relation to culture and society? What is the nature of being human? What is one's role and purpose in existence?*

5. Societal vision: a perspective on how we should organize society and how societal problems and issues should be addressed. ***How has society changed both in structure and how we address problems?***	*How should we organize our society? How should we address societal problems and issues?*

Next, consider your guiding principles. What does the architecture of your life look like? Remember, this essay is an act of construction. You are building a life which you have not yet lived but which you hope to live. Rather than focus on material items you will have or careers, describe the way you lived, what you've thought about, cared for, etc. Of course, this should be full of rich description so get as creative as you want. This is a story of hope.

Creating a life story for decades that you are yet to live is difficult at best. Where to start? I would suggest the following steps for this process:

1. Consider the issues, ideas, and concepts we've talked about this semester. What resonates with you? What did you learn that you'd like to take forward in life?

2. Find others that now live the life you may want. Why do you admire them and their choices?

3. Find communities/cultures that exhibit values that you have or hope to have.

4. Find visionaries who are now imagining future, sustainable communities. What do they look like? How does it gel with what you value or want out of life?

5. Identify major issues that you see with your culture/community/relationships and create change. What does it look like?

Structure your essay so that is coherent and diverse in its approach. Don't focus on one aspect of your future life. Imagine an introductory scene where you describe where you are and why you're telling your story. All autobiographies have a purpose. They aren't just exercises in narcissism. They have something meaningful to share. What do you want to share and who is your audience?

Appendix C: IRB Consent Form

STUDY TITLE: Constructing Worldview: Emerging Adulthood and the Environmental Humanities

FUNDING ORGANIZATION: N/A

NAME OF RESEARCHER (PRINCIPAL INVESTIGATOR): Rhonda Davis

TELEPHONE NUMBER: [redacted]

INTRODUCTION

I am asking you to be in a research study so that we can learn new information that may help others. If you decide to be in this study, you may change your mind at any time during the study and you can stop being in the study. Take all the time you need to make your choice. Ask us any questions you have. It is also okay to ask more questions after you decide to be in the study.

WHY ARE WE DOING THIS RESEARCH?

In this research study, I want to learn more about how students construct worldview.

I am asking you and other people enrolled in ENG 291 to be in the research, because a writing course helps us understand how students think about the world and how that changes over time.

WHO IS IN CHARGE OF THE RESEARCH?

Rhonda Davis is the researcher at Northern Kentucky University that is in charge of this study.

WHAT WILL HAPPEN IN THE STUDY?

Two of the assignments we will be doing in class will be analyzed for indicators of your worldview after they have been submitted and graded. The study will take

no additional time from you. Participation in the study will not affect your grade.

WHAT ARE THE GOOD THINGS THAT CAN HAPPEN FROM THIS RESEARCH?

Being in this study may not help you right now. When we finish the study, we hope that we will know more about yourself and how you view the world. It may help you articulate your own worldview and better understand yourself as a young adult.

This may help other people construct and understand their worldview and those of others. It may also help other instructors who wish to teach using the environmental humanities.

WHAT ARE THE BAD THINGS THAT CAN HAPPEN FROM THIS RESEARCH?

There are no anticipated risks or inconveniences from this study. You will be doing the assignments as part of the requirements for ENG 291. The study only involves you giving me, the instructor, permission to analyze them for indicators of worldview.

WHAT OTHER CHOICES ARE THERE?

Instead of being in this study, you can choose not to be in it. The two assignments will still be required for the course but will not be included in the research project.

HOW WILL INFORMATION ABOUT YOU BE KEPT PRIVATE?

Making sure that information about you remains private is important to me. To protect your privacy in this research study I will keep your submissions private and accessible only in NKU's Canvas site. If your submission is used in the final research report, your name

will not be used and your identity will remain anonymous.

WHO DO YOU CALL IF YOU HAVE QUESTIONS OR PROBLEMS?

For questions, concerns, or complaints about this research study you can contact the study person listed on page 1 of this document.

If you would like to talk to someone that is not part of the research staff or if you have general questions about your research study rights or questions, concerns, or complaints about the research, you can call the Chair of the Institutional Review Board, Will Peveler, Ph.D., at [redacted] or [redacted]

SIGNATURES

The researcher, Rhonda Davis, has discussed this study with you and answered all of your questions. Like any research, the researchers cannot predict exactly what will happen. Once you have had enough time to consider whether you should participate in this research you will document your consent by signature below.

You will receive a copy of this signed document for your records.

_____

Printed Name of Research Participant

_____

Signature of Research Participant Indicating Consent, Date_____

Signature of Individual Obtaining Consent,

Date

Appendix D: Permissions

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Expected completion date	May 2019
Expected size (number of pages)	230
Requestor Location	Rhonda Davis [redacted] [redacted] United States Attn: Rhonda Davis
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Title or numeric reference of the portion(s)	Excerpts from Table 1, The five aspects of the Integrative Worldview Framework (IWF), Excerpts from Table 2, Shows how the IWF facilitates...and how they are interrelated.
Title of the article or chapter the portion is from	Exploring worldviews and their relationships to sustainable lifestyles: Towards a new conceptual and methodological approach
Editor of portion(s)	N/A
Author of portion(s)	Annick Hedlund-de Witt
Volume of serial or monograph.	84
Page range of the portion	80-81
Publication date of portion	2012
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Number of excerpts requested	1
The requesting person/organization is:	RHONDA DAVIS
Title or numeric reference of the portion(s)	Table 1. Ecological Worldview
Title of the article or chapter the portion is from	ECOLOGICAL WORLDVIEW AND REGENERATIVE SUSTAINABILITY PARADIGM
Editor of portion(s)	N/A
Author of portion(s)	AMRITA KAMBO, ROBIN DROGEMULLER, PRASAD YARLAGADDA
Volume of serial or monograph.	N/A
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